

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL
RAILROAD AND FINANCIAL NEWSPAPER.

CONTENTS.

EDITORIAL.

The MANUFACTURERS' RECORD and Its Work	5
Iron for Ship-Building	5
Grass Gardens for the South	5
The South's Possibilities in Population	6
American Fresh-Water Seas	8
'The South's Self-Regeneration	8
The President's Message	37
Editorial Short Notes	5, 7, 9, 12

CORRESPONDENCE AND NOTES.

The South's Strong Position	9
Antietam—Plans of a Strong Company for Building a City at Shenandoah Junction	10
Growing Demand for Southern Timber Lands	11
General Notes	12
Affairs of the United States Rolling Stock Co.	12
What Dallas (Texas) Is Doing	12
"The State of Virginia"	37
No Let-Up in Southern Industrial Progress	38
The Buena Vista Steel Plant	42
From Tredegar, Ala.	43
Developments in the Shenandoah Valley	69
Literary Notes	69

CONSTRUCTION DEPARTMENT.

Full particulars regarding all industrial enterprises organized in the South during the past week	40-42
Building Notes	42
Burned	42
Machinery Wanted	44

INDUSTRIAL NOTES.

Trade Notes	47, 52
Illustrated Descriptions of Machinery	47
Iron Market Report	70
Eastern Lumber Markets	74

FINANCIAL DEPARTMENT.

New Banks	38
Bonds, Stocks and Other Notes	38
Southern Stock Quotations	38

RAILROAD DEPARTMENT.

Railroad Construction	37
-----------------------	----

\$4.00 per year.
Single Copy
10 Cents.

Vol. XVIII
No. 18.

Baltimore, December 6, 1890.

Classified Index of Advertisers.

[FOR ALPHABETICAL INDEX WITH PAGES, SEE PAGE 77]

Acid Chambers, Edward Allen.	Boller Compound, Litofuse Mfg. Co.	Talbott & Sons.	Engravers, Southern Engraving Co.	Jno. F. Byers.	Mill Engineers, Gray & Fitch.	Stickney Oil Burner Co.
Valk & Murdoch Iron Works.	Boller Makers' Supplies, New Doty Mfg. Co.	W. P. Callahan & Co.	Cranes, Vulcan Iron Wks. Co.	Moore Mfg. & Fdy. Co.	Raeder, Coffin & Crocker	Haines, Jones & Cadbury Co.
Air Compressors, Ingersoll-Sergeant Rock Drill Co.	Boller Setting, Jarvis Engineering Co.	Detroit Fly. Equip. Co.	Ryder & Death.	M. C. Bullock Mfg. Co.	Lockwood, Greene & Co.	Pancoast & Maule.
Rand Drill Co.	Bolts, Rivets and Nuts.	Walker Mfg. Co.	Feed Wat'r Heater	Contractors' Pit. Mfg. Co.	C. R. Makepeace & Co.	D. Saunders' Sons.
Architects, Hoopes & Townsend.	Bricks.		Wm. Baragwanath & Son.	Copeland & Bacon.	Drew, Baldwin & Co.	Presses (Power.)
Fava, Naef & Co.	Washington Hydraulic Press Brick Co.		Hoppe's Mfg. Co.	Ed. Kendall & Sons.	Lockwood Mfg. Co.	Wells Rustless Iron Co.
Gray & Fitch.	Foos Mfg. Co.		Fencing.	Diamond Prospect. Co.	Miner & Peck Mfg. Co.	Saws.
Raeder, Coffin & Crocker	Crushers & Breakers (Ore, Rock, &c.)		Belmont Iron Wks. Ltd.	Knoxville Car Whl. Co.	Boomer & Boschart	(See also Woodworking Machinery.)
C. R. Makepeace & Co.	Frisbee-Lucop Mill Co.		Many Mfg. Co.	Yan-McDonald Mfg. Co.	Pulleys, Shafting & Hangers.	Wheeler, Madden & Clemson Mfg. Co.
Lockwood Greene & Co.	Walker & Elliott.		Dufur & Co.	Webster, Camp & Lane Machine Co.	P. Pribil.	W. F. & John Barnes Co.
Drew, Baldwin & Co.	Totten & Hogg I. & S. Fdy. Co.		Fred J. Meyers Mfg. Co.	E. Harrington, Son & Co.	Walker & Elliott.	Canton Saw Co.
Architectural Iron Work.	Raymond & Bros. Impact Pulverizer Co.		Ludlow Saylor Wire Co.	Rope Hoist.	Dayton Globe Iron Works Co.	Chattanooga Saw Wh.
Belmont Iron Wks., Ltd.	Lloyd-Booth Co.		Fertilizer Mehry.	Christie & LeCount.	Atlanta Machine Wks.	Peter Gerlich & Co.
Chickasaw Iron Works.	Bradley Fertilizer Co.		Walker & Elliott.	Waters & Garland.	Todd Pul. & Shaft Wks.	Saw Mill Machinery.
Manly Mfg. Co.	Gates Iron Works		H. D. Dempwolf & Co.	Milner & Kettig.	Webster Mfg. Co.	W. E. Hill & Co.
Artesian Wells, Cook Well Co.	Valk & Murdoch I. Wks.		Valk & Murdoch I. Wks.	James Smith & Co.	Van Winkle Gin & Mach. Co.	Chattanooga Saw Wh.
Bankers & Brokers, Alex. Brown & Sons.	Rawson & Morrison		W. D. Dunning.	Mining, Quarrying & Stone-Cutting Mehry.	Fitzsimons & Co.	B. S. Abbott.
Equitable Mortgage Co.			Files.	Steam Stone Cutter Co.	Ohio Pulley & Mach. Co.	Buffalo Scale Co.
E. B. Newhall.			Industry File Works.	Rand Drill Co.	Menasha Wood Split Pulley Co.	Jones of Birmingham.
N. W. Harris & Co.			Covel Mfg. Co.	Allentown F. & Mch. Co.	Warfield Mfg. Co.	Ricke Bros.
Wilson, Colston & Co.			Nicholson File Co.	Atlanta Machine Wks.	Taper-Sleeve Pul. Wks.	Screws, Taps, etc.
D. J. C. Arnold.			Reynolds Bros.	Ingersoll-Sergeant's Rock Drill Co.	James Smith & Co.	Cincin. Screw & Tap Co.
Frey-Sheckler Co.			Western File Co.	Webster, Camp & Lane Machine Co.	Webster Camp & Lane Machine Co.	Scroll Saws.
Chambers Bros. Co.			Fire Department Supplies and Extinguishers.	Lincoln Iron Works.	E. J. Wood.	H. L. Beach.
Fletchers & Thomas.			Black Cloud Chem. Fire Extinguisher Co.	Atlanta Machine Wks.	Pumps (Hand and Power.)	W. F. & John Barnes Co.
C. W. Raymond & Co.			Collins Supply Agency.	Castle Engine Works.	Gould Mfg. Co.	Sheet Metal Working Machinery.
Alex. K. Rarig & Co.			Christie & LeCount.	Ring Ref. & Ice Mch. Co.	Deming Co.	Niagara Stamping and Tool Co.
P. L. Sword & Son.			Watson & Stillman.	Child Acme Press & Cutter Co.	Van Winkle Gin & Mach. Co.	Shingle and Stave Machinery.
St. Louis Iron & Mach. Works.			Extinctor.	Richmond Ice Mch. Co.	Pumps (Steam.)	(See Woodworking Machinery.)
			Collins Supply Agency.	Fred W. Wolf Co.	Thos. P. Conard.	W. E. Hill & Co.
			Christie & LeCount.	Sulzer-Vogt Mch. Co.	Canton Steam Pump Co.	Skylights.
			Watson & Stillman.	Frick Co.	Eclipse Pump Mfg. Co.	E. Van Noorden & Co.
			Extinctor.	H. W. Wolf Co.	Lawrence Machine Co.	Soap-makers' Mehry.
			Collins Supply Agency.	St. Louis Iron & Mach. Works.	Baird Pump & Engine Co.	Butchers' Mehry.
			Christie & LeCount.	Richmond City Mill Works.	Van Duzen & Tift.	H. Wm. Dopp & Son.
			Watson & Stillman.	Works.	Cook Well Co.	A. W. Houchin.
			Extinctor.	Frontier Mfg. Co.	Deane S. P. Co.	Speed Regulators.
			Collins Supply Agency.	South. Elec. Supply Co.	Goulds Mfg. Co.	F. M. Foote Reg. Co.
			Christie & LeCount.	Insurance.	John Maslin & Son.	Stand-Pipe.
			Watson & Stillman.	Employers' Liab'ty Assurance Corp., Lim.	H. R. Worthington.	J. C. McNeil Co.
			Extinctor.	Hartford St. Boiler Insp. and Insurance Co.	Hughes Steam Pump Co.	Sharon Boiler Wks.
			Collins Supply Agency.	Eastman & Co.	Pulsometer Stm. P. Co.	Porter Mfg. Co.
			Christie & LeCount.	Ryder & Death.	Valley Pump Co.	Baldwin St. Boiler Wks.
			Watson & Stillman.	C. A. Gambrill Mfg. Co.	Dean Bros. Stm. P. Wks.	B. A. Draper & Sons.
			Extinctor.	The Bradstreet Co.	Bladesee Mfg. Co.	Crompton Loom Wh.
			Collins Supply Agency.	Giant Key Seater Co.	Laidlaw & Dunn Co.	Globe Machine Works.
			Christie & LeCount.	G. D. Colton & Co.	F. G. Blake Mfg. Co.	Geo. Draper & Sons.
			Watson & Stillman.	E. Harrington, Son & Co.	Irvin Van Wie.	Whitinsville Spinning Ring Co.
			Extinctor.	Lodge & Davis Machine Tool Co.	The A. Cameron Stm. Pump Works.	Geo. P. Clark.
			Collins Supply Agency.	Lathe & Morse Tool Co.	Ind. H. McGowen & Co.	Textile Machinery (Second Hand.)
			Christie & LeCount.	Jacks.	The Smith & Vaile Co.	"D. W. O."
			Watson & Stillman.	Joyce, Cridland & Co.	Buffalo Stm. Pump Co.	Providence Beltng Co.
			Extinctor.	Riehle Bros.	Rumsey & Co. (Lim.)	James Smith & Co.
			Collins Supply Agency.	Lodge & Davis Machine Tool Co.	Biggs & Clarke.	Standard Steel Works.
			Christie & LeCount.	Jacks.	Oil Cups.	Tools (Machine & Hand.)
			Watson & Stillman.	Joyce, Cridland & Co.	Wm. A. Williams Mfg. Co.	G. L. Edwards Mfg. Co.
			Extinctor.	Lunkenheimer Brass Mfg. Co.	Lunkenstein Brass Mfg. Co.	Curtis Regulator Co.
			Collins Supply Agency.	Sherwood Mfg. Co.	Oils.	Beni Watson.
			Christie & LeCount.	Oils.	Olyne Bros.	Testing Machines.
			Watson & Stillman.	Wm. C. Robinson & Son	Wm. C. Robinson & Son	Riehle Bros.
			Extinctor.	Stickykey Oil Burner Co.	Oll Burners.	(See also R. R. Beppe and Subsidiary.)
			Collins Supply Agency.	The A. M. Dolph Co.	Ore Washers.	Penn. Steel Co.
			Christie & LeCount.	Lights (Factory and Outdoor.)	Packaging.	Beni Watson.
			Watson & Stillman.	Schneider & Trenkamp Mfg. Co.	Garlock Packing Co.	Testing Machines.
			Extinctor.	M. N. Cox.	James Smith & Co.	Textile Machinery and Supplies.
			Collins Supply Agency.	Empire Port. Forge Co.	Shields & Brown Co.	Schmidt & Uhlinger.
			Christie & LeCount.	Lodges & Davis Machine Tool Co.	Penn. Globe Gas Lt. Co.	"D. W. O."
			Watson & Stillman.	Jas. P. Witherow.	Locomotives.	Providence Beltng Co.
			Extinctor.	Stein & Schwarz.	(See also R. R. Equip'mt and Supplies.)	James Smith & Co.
			Collins Supply Agency.	Electric Railway and Motors.	Chattanooga Iron Works.	Stoddard, Lovering & Co.
			Christie & LeCount.	Baxter Elec. Motor Co.	Long Steel & Iron Roofing Co.	N. M. Fredrick.
			Watson & Stillman.	L. N. Cox.	Long & Allstatter Co.	James Tredick.
			Extinctor.	Thomson-Houston Electric Co.	Perforated Metal.	American Supply Co.
			Collins Supply Agency.	Electric Light Co.	Harrington, Son & Co.	Jeremiah Clark.
			Christie & LeCount.	Brush Electric Light Co.	Perforated Metal.	Crompton Loom Wh.
			Watson & Stillman.	Industrial Light Co.	H. D. & Co.	Globe Machine Works.
			Extinctor.	Penn. Globe Gas Lt. Co.	Dayton Globe Iron Works Co.	Geo. Draper & Sons.
			Collins Supply Agency.	Jenkins Bros.	Perforated Metal.	Whitinsville Spinning Ring Co.
			Christie & LeCount.	Electric Light Co.	H. K. Porter & Co.	Geo. P. Clark.
			Watson & Stillman.	Electric Light Co.	Baldwin Loco. Works.	Textile Machinery (Second Hand.)
			Extinctor.	Electric Light Co.	Perforated Metal.	"D. W. O."
			Collins Supply Agency.	Electric Light Co.	Harrington, Son & Co.	Thaddeus S. Cobb & Co.
			Christie & LeCount.	Electric Light Co.	Perforating Co.	L. Godfrey & Co.
			Watson & Stillman.	Electric Light Co.	Phosphor Bronze.	Tires.
			Extinctor.	Electric Light Co.	Phosph. Bron. Smelt. Co.	Standard Steel Works.
			Collins Supply Agency.	Electric Light Co.	Pig Iron.	Tools (Machine & Hand.)
			Christie & LeCount.	Electric Light Co.	Lowe & Tucker.	Giant Key Seater Co.
			Watson & Stillman.	Electric Light Co.	Pickands, Mather & Co.	Curtis Regulator Co.
			Extinctor.	Electric Light Co.	Pile Drivers.	Steam & Dumper Regulators.
			Collins Supply Agency.	Electric Light Co.	Vulcan Iron Works.	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Extinctor.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Collins Supply Agency.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Christie & LeCount.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.
			Watson & Stillman.	Electric Light Co.	Pipe (Cast Iron and Steel.)	Steam Separators.

CLOTHING.
PHILADELPHIA,

JAMES SMITH & CO. Woolen Machinery.

Manufacturers of

PENNSYLVANIA.

Milling Outfits for Flour and Meal.

WE MAKE ROLLS AND PORTABLE MILLS COMPLETE.

Manufactory Established in 1851.

Pamphlets with Prices Mailed Free.

NORDYKE & MARMON CO., INDIANAPOLIS, IND.

ELEVATORS

Send for Illustrated Circulars.

MORSE ELEVATOR WORKS.

MORSE, WILLIAMS & CO.

Manufacturers and Builders of HYDRAULIC STEAM, BELT and HAND-POWER PASSENGER and FREIGHT ELEVATORS.

Successors to CLEM & MORSE.
With most approved Safety Devices.
Dumb-Walters, Automatic Hatch-Doors, &c.

Office, 1105 FRANKFORT AVE.; Works, FRANKFORT AVE., WILDEY and SHACKANAXON STREET, PHILADELPHIA, PA.

Branch Office, 108 Liberty St., New York.

MORTON, REED & CO., 3 & 5 German St., Agents for Baltimore.

Boston Office, 14 High St.

A GREAT TUNNEL

JUST FINISHED WITH INGERSOLL-SERGEANT MACHINERY.

In reply to your inquiry as to the performance of the four 20-in. x 24-in. CHIEF ENGINEER'S OFFICE, HAMILTON, ONT., October 2, 1890.
NEW INGERSOLL-SERGEANT AIR COMPRESSORS furnished
continuously at work night and day, Sundays included, for nearly six months.

Yours truly,

JOSEPH HOBSON, Chief Engineer.

INGERSOLL-SERGEANT ROCK DRILL CO., 10 Park Place, New York.



THE CINCINNATI SCREW AND TAP CO.

Manufacturers of and Dealers in all kinds of

SET, CAP and MACHINE

+ SCREWS.

MORSE TWIST DRILLS,
COLD PUNCHED NUTS,
TAP WRENCHES,
DRILL CHUCKS,



188 W. 2d Street.

REAMERS,

TAPS AND DIES,

GREEN RIVER SCREW PLATES,

BOLT CUTTERS,

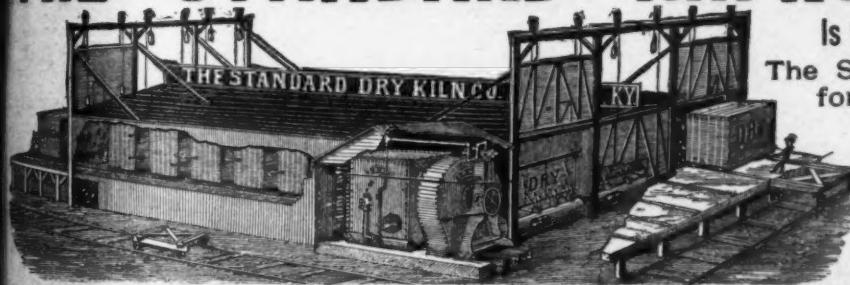
BLACKSMITH'S DRILLS,

MILLING CUTTERS.

CINCINNATI, O.



THE STANDARD IMPROVED DRY KILN



Is the Best Lumber and Shingle Dryer in the Market.

The STANDARD "HOT BLAST" APPARATUS,
for Heating and Ventilating Public Build-
ings, Factories, &c., is Unexcelled.

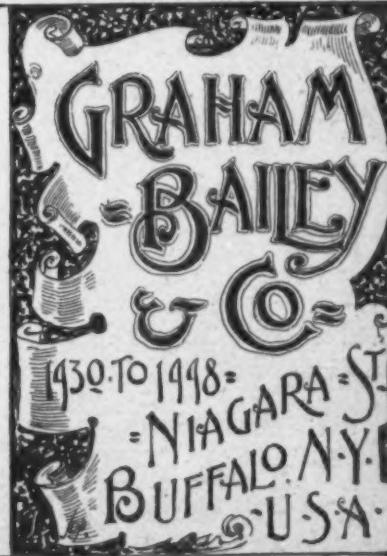
Send for catalogue containing numerous testimonials. Estimates and plans
furnished on application.

The Standard Dry Kiln Co.

1224 to 1230 West Main Street,

Branch Office, 20 Vesey St., New York.

LOUISVILLE, KY.



STEEL RAILS,
(ALL WEIGHTS)
PIG IRON,
IRON ORE,
SCRAP.

ROBINSON & ORR,

Steel Rails and Fastenings.
419 Wood St., PITTSBURGH, PA.

WE BUY
OLD IRON AND
STEEL RAILS,
(for reworking
or relaying.)
WRITE US.

BUFFALO SCALE CO., Buffalo, N.Y.

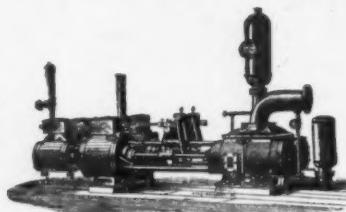
Headquarters

RAILROAD TRACK SCALES and all other Scales.

THE DEANE STEAM PUMP COMPANY HOLYOKE, MASS.

BUILT
STEAM * PUMPING * MACHINERY
OF EVERY VARIETY.

Send for New Catalogue.



CHICAGO,

NEW YORK, BOSTON,
PHILADELPHIA, ST. LOUIS
MAKE A SPECIALTY OF

Water Works ENGINES

FOR THE SUPPLY OF CITIES AND TOWNS.

Birmingham Office and Warerooms: No. 6 SOUTH 20th STREET.

WORTHINGTON STEAM PUMPS

SOUTHERN SELLING AGENTS:
THOS. C. BASSHOR & CO., Baltimore, Md.
KENTUCKY MACHINERY CO., Louisville, Ky.
PERRY MACHINE WORKS, Nashville, Tenn.
LIVERMORE FDRY. & MACH. CO., Memphis, Tenn.
FORSBERG & MURRAY, Washington, D. C.

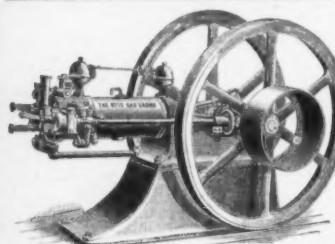
Boston Philadelphia

SEND FOR ILLUSTRATED CATALOGUE

HENRY R. WORTHINGTON
NEW YORK.

Chicago St. Louis

St. Paul San Francisco



Over 18,000 in use. OTTO GAS ENGINE

20 to 70 per cent less gas consumption than ANY OTHER ENGINE.

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started Instantly by a Match it gives full power immediately.

When Stopped all Expense Ceases.

GUARANTEED TO CONSUME 25 TO 75 PER CENT. LESS GAS THAN ANY OTHER GAS ENGINE DOING THE SAME WORK.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies. Unsurpassed in every respect for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes, 1 to 25 Horse-Power.

Branch Office, 151 Monroe St., Chicago, Ill. OTTO GAS ENGINE WORKS, Schleicher, Schumm & Co. 33D AND WALNUT ST., PHILADELPHIA, PA.

GEO. DRAPER & SONS, of Hopedale, Mass.

Highest Grade of Twisters, Warpers and Spoolers.

SOUTHERN AS WELL AS NORTHERN MILLS REQUIRE THE HIGHEST GRADE.

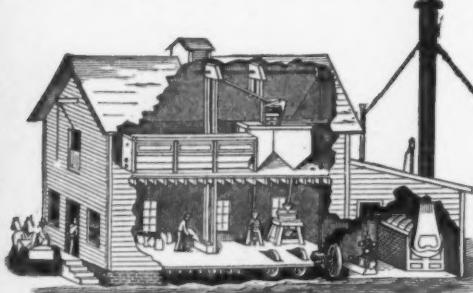
THEY ARE CONSTANTLY INTRODUCING IMPROVEMENTS IN ALL LINES OF COTTON MACHINERY.

FLOUR, CORN, PORTABLE AND ROLLER

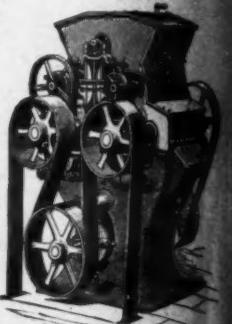
MILLS

COMPLETE.

ALL SIZES.



NORDYKE & MARMON CO., Indianapolis, Ind.



For SUCTION, WATER, STEAM, GAS, AIR, ACIDS and for every purpose to which a Hose can be applied.

ARMORED
PAT.
1882, '85, '86, '88.
RESISTANCE to Great Pressure; Unobstructed Flow of Water; Increased Flexibility and Perfect Protection are some of its Advantages.

SPHINCTER GRIP
ARMORED
SPRING STEEL GALVANIZED
WE GUARANTEE every foot sold to withstand constant service for such longer period as to render its actual cost much less in the end. Every wind of the wire can be cut without loosening or uncoupling.

The making, vending or use of any SERVICEABLE ARMORED WIRE-BOUND HOSE not of our manufacture is an infringement on one or more of our patents, and any violation will meet with instant prosecution. Brass plates mark each coil and admonish infringers, whether evil-minded or ignorant.

WATERBURY RUBBER COMPANY,

Sole Manufacturers and Proprietors,

49 WARREN STREET, NEW YORK.

THE EMPLOYERS' LIABILITY ASSURANCE CORPORATION, Limited, OF LONDON, ENGLAND.



Trustees for the United States:

OLIVER W. PEABODY, Esq.,
KIDDER, PEABODY & Co., Boston.
CHAUNCEY M. DEPEW, Esq.,
Pres. N. Y. Cen. and H. R. R. Co., New York.
SAMUEL SLOAN, Esq.,
Pres. Del. Lacka. and West. R. R. Co., New York.
WM. A. FRENCH, Esq., Pres. Mass. National Bank.
ABRAM FRENCH, Co., Boston.
HON. JOHN LOWELL, Boston.

Deposited in United States,

\$700,000.00.

Policies issued giving full protection to Employers against loss by Claims from Employees on account of Accident. Rates Proportioned to Risks of Occupation. One Premium the only Payment during year. No Contingent or other Liability on part of Employer.

Employers with Pay Rolls of \$103,000,000 already covered in United States. No Employer should be without this Protection. Cases investigated by Competent Inspectors and considered by Eminent Counsel. If liability shown, claim settled without litigation.

ENDICOTT & MACOMBER, Managers for the United States,

71 KILBY STREET, BOSTON.

AGENTS—SAMUEL APPLETON, 28 Central St., Boston; EDMUND DWIGHT, Jr., 51 Cedar St., N. Y.; MIDDLE DEPARTMENT, TATTNALL PAULDING, Mgr., 416 and 420 Walnut St., Philadelphia; G. W. S. HALL, 413 Second St., Baltimore, Md.; GEO. A. GILBERT, 226-228 LaSalle St., Chicago; F. D. HIRSHBERG & BRO., 120 N. Third St., St. Louis; HUFFMAN & ALLISON, State Agents for Alabama and Tennessee, Birmingham, Ala.

For SOAP MAKERS and BUTCHERS' MACHINERY, ADMITTED H. Wm. Dopp & Son, Buffalo, N.Y.





MANUFACTURERS' RECORD

A Southern Industrial, Railroad and Financial Newspaper.

VOL. XVIII. NO. 18.
WEEKLY.

BALTIMORE, DECEMBER 6, 1890.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

PUBLISHED EVERY SATURDAY BY THE
MANUFACTURERS' RECORD CO.

President,
RICHARD H. EDMONDS.

Secretary and Treasurer,
WM. H. EDMONDS.

RICHARD H. EDMONDS, EDITOR.
WM. H. EDMONDS, BUSINESS MANAGER.

THOMAS P. GRANTY, Southern Staff Correspondent.

OFFICE
ONE EXCHANGE PLACE AND COMMERCE STREET,
BALTIMORE.

SUBSCRIPTION, - - - - \$4.00 a Year.
In Foreign Countries, - - - 6.50 a Year.

BALTIMORE, DECEMBER 6, 1890.

The Manufacturers' Record and Its Work.

Says the South Pittsburg (Tenn.)

The MANUFACTURERS' RECORD, of Baltimore, has performed a giant's work in furthering the progress of manufacturing industries in the South, and is continuing the good work. The MANUFACTURERS' RECORD is impartial in its advocacy of Southern progress, and is a standard for reliable data and information. Its labors for the good of the whole South, which it is accomplishing in a very satisfactory manner.

The Lexington (N. C.) Dispatch

Many thanks are due its publishers by the people of the South for the great good it is effecting. May it continue to present Southern industries in their true light as heretofore. The reliable information it contains each issue makes it most valuable to the people of the whole country. Long may it live.

And the Elizabeth City (N. C.) Economist comments as follows:

The MANUFACTURERS' RECORD, of Baltimore, has done a good work in the development of the Southern States, which cannot be too highly commended. We regard it as our bulwark and defense. It has spared no expense, no energy and no intelligence in discovering the vast resources of the South, and is a striking illustration of the value of a newspaper thoroughly informed and fully identified with any people. We lift our hat in sincere thankfulness to the MANUFACTURERS' RECORD, and we read no work with so much pleasure and so much profit.

While the Anderson (S. C.) Journal has it up in a sentence:

The MANUFACTURERS' RECORD has at all times been a true friend of the South, and has every reason to be proud of the work it has accomplished.

Iron for Ship-Building.

Since iron and steel have largely taken the place of wood in maritime construction, the influence of the ship-building trade upon the iron industry has been very great. The Colliery Guardian, of London, Eng., in a recent article, says: "The revival in the demand for iron and steel for ship-building purposes will have its influences on several branches of the malleable metal trades, and will be, of course, carried through to the crude iron industry." After referring to the contracts for ships booked in the autumn, and stating that in consequence the iron and steel plate men had received orders that would keep their mills in operation for several months, the Guardian quotes Sir Lowthian Bell as saying that in 1879, "a very dull year in the ship-building trade," the consumption of pig iron in that industry in Great Britain was 383,000 tons, while in 1883, in which year the shipyards made one of their greatest outputs, 840,000 tons were used. It continues as follows:

Taking the estimate of Sir Lowthian Bell, it will be seen that fluctuation in the demand for iron for ship-building is as great as 500,000 tons. In other words, the difference between great activity and deep dullness in the ship-building industry is shown by half a million tons of pig iron being used or not used. Great activity in ship-building has been known for some time and it may be looked on as assured for at least well on into next year. Indeed, ship-building is one of the largest of the industries when looked at as a consumer of pig iron—that is as far as Great Britain is concerned. According to one of the tables Sir Lowthian Bell gives us in his work on "The Iron Trade of the United Kingdom," in the last year tabulated there, out of about 3,263,000 tons of pig iron used in the United Kingdom, some 611,000 tons were used in ship-building, a quantity considerably below the tonnage used in the brisk years we have referred to, but still about a fifth part of the total consumption of the kingdom.

Should the shipping bills now pending in Congress, and well advanced toward their passage, be enacted this session, an impetus would be given to commerce that would fill every existing ship-yard with orders, and lead to the establish-

ment of many new ones, especially in close proximity to the larger Southern ports. Thus new customers would be created for the products of Southern furnaces, rolling mills and machine shops, while large numbers of skilled mechanics would be employed at the shipyards. Great Britain's experience is a safe guide for our action in this respect. She dominates the world's commerce with her subsidized merchant fleets, and builds ships that use up 20 per cent. of her annual iron product in their construction. American shipping and commerce ought to be equally well cared for by our Washington Solons.

Grass Gardens for the South

Grass gardens will be a new name to most of the readers of the MANUFACTURERS' RECORD, but there are gardens devoted exclusively to grass, and very useful and beautiful they may be made. The man who gave them that name is James B. Olcott, of South Manchester, Conn., an expert of the agricultural station of that State, famed for "Yankee notions," of which this is one of the latest. A recent issue of the New York Sun devotes a column to an entertaining as well as suggestive notice of the work Mr. Olcott has done, and how he accomplishes it. As there are many cities and towns in the South where the idea prevails that it is impossible to make fine lawns around residences, or to carpet the parks with verdure, and as Mr. Olcott asserts that both these desirable things may be done, it is quite worth while that the South should know what a grass garden is. The Sun thus describes Mr. Olcott's method:

His plan of propagation is beautifully simple. He goes to an old pasture and searches with diligence until he has found a bit of ground covered with grass of one sort. With odd implements of his own invention he takes out all the visible weeds, and then he cuts a rectangular sod 10x12 inches. He takes this home and divides it, if it seems best, into bits an inch square, when the work of propagation begins. Each bit is placed in a piece of mechanically sterilized earth and carefully tended. In a few weeks every square inch has increased to a square foot. Then the process of sub-division is repeated, and in the course of three or four months the original sod has spread out into a small lawn. Mr. Olcott created a lawn last sum-

mer in the sterile yard of Prof. Jackson's house in New Haven. It is a bleak spot, shaded with trees, but grass planted in May had thickened into a beautiful turf by September. Mr. Olcott insists that with proper attention it is quite possible not only to obtain uniform lawns by sodding and by propagation directly from the plant, but also by propagation from the seed. As things are now, the man that sows grass seed never knows what the harvest will be.

The superintendent of gardens in Central Park, New York, has become convinced that Mr. Olcott's system can be applied to that extensive pleasure ground, and has done some preliminary work towards changing its weedy lawns and grassless woodlands into grass gardens. He proposes to enlarge upon the original plan, and to utilize one of the great greenhouses in the park for the winter propagation of grass that can be transplanted next spring.

"He believes," says the Sun, "that without additional labor he could improve an acre or so of lawn per annum, and he thinks the object lesson would be so convincing that improvement on a much larger scale would be ordered. In any case, from this time forth all new public lawns laid out will be of a radically different character from the present lawns. Grass gardens will be established, if not for the sake of Central Park, then for the newer parks. The haphazard purchase of sod and grass seed will cease, and every bit of grass plot laid out will be provided with pedigree plants from the park department's garden."

Thousands of dollars have been expended in the South within the past ten years in efforts to make lawns around residences and in wooded parks. Some have been successful, others have ended in disappointment. Mr. Olcott seems to have a plan to suit every locality and every condition of exposure. If he can make verdant lawns on the sterile hillsides and sandy beaches of New England, the South can secure them for her more favored soil and climate.

In our letter concerning Shenandoah Junction last week, the types made our correspondent say that "when production exceeds consumption, manufacturing would pay anywhere." Of course there was a transposition of the words, as was obvious to an intelligent reader. Apropos of this letter on Shenandoah Junction, which has attracted considerable attention, we publish elsewhere the official announcement of the formation of a strong company to build a city on this "best unoccupied town-site in the South."

The South's Possibilities in Population.

It may well be taken as a confirmation of what the MANUFACTURERS' RECORD has persistently and emphatically claimed for the South and the strength of her position before the world to-day that every effort to decry Southern industries and development has its foundation in purely fictitious conditions that vanish into thin air upon the most casual investigation. For a single example of this take the absurd talk of a few critics, who are endeavoring to show that the building of new towns in the South has gone as far as it can with safety. Just while this idle talk is being intruded upon unwilling listeners and readers, the figures of the present census show that the population of the South has not yet reached the point that will make it necessary to fill in the water-courses in order to accommodate those who desire to find sites for homes. As a preliminary to the consideration of the possibilities of the South a few figures of the density of population in the different sections of the country may be of interest. The figures in the following tables are based upon the population as returned by the Eleventh Census:

DENSITY OF POPULATION IN SOUTHERN STATES.

	Area, sq miles.	Popula'n. sq. mile.	Pop. per sq. mile.
Maryland.....	11,124	1,040,311	93.53
Virginia.....	38,348	1,648,918	42.99
West Virginia.....	23,000	760,448	33.06
North Carolina.....	50,704	1,617,340	31.90
South Carolina.....	34,000	1,147,161	33.74
Georgia.....	58,000	1,834,166	31.03
Florida.....	59,268	390,435	6.42
Alabama.....	50,722	1,508,073	29.71
Mississippi.....	47,155	1,284,887	27.25
Louisiana.....	44,823	1,116,828	24.87
T. xas.....	274,356	2,232,220	8.14
Tennessee.....	45,500	1,763,723	38.68
Kentucky.....	37,600	1,855,430	49.24

DENSITY OF POPULATION IN NORTH ATLANTIC STATES.

	Area, sq. miles.	Pop. per sq. miles.	Popula'n. sq. mile.
Maine.....	35,000	660,261	18.86
New Hampshire.....	9,260	375,827	40.50
Vermont.....	10,212	332,205	32.53
Massachusetts.....	7,800	2,233,407	295.33
Rhode Island.....	1,105	345,743	264.43
Connecticut.....	4,759	745,861	157.02
New York.....	47,000	5,981,934	127.28
New Jersey.....	8,320	1,441,017	173.20
Pennsylvania.....	46,000	5,248,574	114.05

There is nothing in these tables to excite solicitude for the future of the South so far as the ability of that region to support a larger population than it now has is concerned. In fact, the figures reveal a very sparse population in all of the Southern States, despite the arguments of the alarmists to the contrary. We have yet to hear that Massachusetts or Rhode Island or Connecticut is overcrowded; on the contrary, there are thousands of acres of good land in these States that have not yet been cultivated, and there are vast areas that are still covered with timber and devoid of any evidences of civilization. How far the South still is from the density of population of the Northern States appears at a glance

at the tables above. With the exception of Maryland, which lies close to the nation's capital, there is not a State in the South that has one-fifth the density of population of the little New England State of Massachusetts. And would anybody question the ability of any of the Southern States to support as large a number of people to the square mile as now live in Massachusetts? Surely not.

This subject of population is a very fascinating topic, and it suggests some further calculations that may be of interest. The population of Pennsylvania is 5,248,574, which gives a density of 114.05 persons to each square mile of territory. This could not be characterized as overcrowding, nor could Pennsylvania be considered as in peril of famine or pestilence if the population should reach two or three times its present figures. In many respects Pennsylvania presents conditions that are found in the South, and for a very modest estimate of Southern possibilities Pennsylvania might be taken as a standard. Allowing to each of the Southern States a density of population equivalent to that existing in Pennsylvania, would give to the South nearly one and one-half as many people as there are now in the entire United States, or about 88,000,000.

These figures of Southern possibilities based upon Pennsylvania's conditions are of no little interest. Here they are:

Maryland	1,268,126
Virginia.....	4,371,672
West Virginia.....	2,622,000
North Carolina.....	5,780,250
South Carolina.....	3,876,000
Georgia.....	6,612,000
Florida.....	6,756,552
Alabama.....	5,784,308
Mississippi.....	5,375,784
Louisiana.....	5,117,804
Texas.....	31,276,584
Tennessee.....	5,198,400
Kentucky.....	4,295,520
Total.....	88,333,000

Startling as these figures may appear at first sight, there is nothing of the impossible about them, and they invite further consideration in order that their possibilities may be shown more in detail. Let us look into the matter a little and see if it is yet time for the Southern towns to stop growing. Let us start with Virginia, which in many respects seems to be destined to rival Pennsylvania in the South, particularly in the great iron and coal industries. Pennsylvania has an area of 46,000 square miles and a population of 5,248,574, while Virginia, with an area of 38,348 square miles, has a population of only 1,648,911. It is in Virginia, probably, that the work of building new towns and establishing new industries has been most vigorously pushed during the last few years, and

yet the population of Virginia has not reached much more than one-third of the density of Pennsylvania's population. In order to rank with Pennsylvania in this respect Virginia must increase her 1,648,911 people to 4,371,672, and yet those who would set themselves up as critics of the South would have us believe that Virginia is already over-populated and should not be permitted to grow any further. By what remarkable system of reasoning is such a conclusion reached, and upon what basis is Virginia allotted but one-third of the number of people who dwell upon an equal area in Pennsylvania? Is Pennsylvania a productive paradise and Virginia a barren desert? An assertion of that character carries its own denial. There is no reason, real or fancied, why Virginia should not grow and flourish until her people shall become as numerous as those of Pennsylvania are to-day. Virginia has added 136,346 people to its population during the last ten years, according to the census, and this increase has been spread thinly over the State. Were all this increase bunched into cities apart from the rest of the people, it would not make nine cities of the size of Roanoke, or perhaps half a dozen cities like Lynchburg.

The complete figures of the Eleventh Census for the towns and cities of the country are not yet accessible, but many of them have been published from time to time during the progress of the count, and from these fragments it is possible to frame reasonably accurate figures for the more important towns and cities of many of the States. These statistics show that Pennsylvania has 31 cities with 10,000 or more inhabitants each, and about 35 towns with between 5,000 and 10,000 each. Virginia has only 8 or 10 cities of more than 10,000 inhabitants each, and not more than an equal number of towns with 5,000 to 10,000 each. Now there is something in this that is worthy of the consideration of those who are trying to block the wheels of Southern progress. Can it be shown that Richmond would be a menace to the stability of the nation if its population should be 900,000 instead of 90,000? Or can it be demonstrated that 500,000 people could not dwell around and about the homes of Norfolk's present 35,000? Roanoke has about 16,000 inhabitants, but there seems to be no reason why 32,000 should not thrive there as well as in Lancaster, Pa. The population to which

any State or region is entitled cannot be determined by any arbitrary rule. So long as there are business opportunities or means of support, or so long as there are resources calling for development, just so long will people gather and establish their homes. In this respect Pennsylvania possesses nothing that Virginia cannot duplicate. It is in Pennsylvania that the coal and iron industries have reached their highest development in this country, but this development had a beginning like everything else that man has made. Virginia has the resources that are requisite for the basis of industries as great as those of Pennsylvania, and it is an assumption of omniscience to assert that Virginia's people and industries shall not grow as have those of Pennsylvania. What has been done already in Virginia is but a beginning, and no man can say what shall be the limit of possibilities. The same causes that built up Pittsburgh, Allegheny, Altoona, Erie, Lancaster, Lebanon, McKeesport, Bethlehem, Scranton, Wilkesbarre, Pottsville and the like in Pennsylvania will bring into existence scores of such cities in Virginia. The talk about too many towns in Virginia is arrant nonsense. One might as well set out to prove that the world is flat and travels around its orbit on wheels. With four more Richmonds, five new Danvilles, ten new Roanokes, four additional Norfolks, ten Lynchburgs, a dozen Stauntons and twenty Petersburgs, there would still be room in Virginia for some 50 cities of 25,000 inhabitants each, about 75 towns of 10,000 population, and say 100 towns of 5,000 people each. And even then Virginia would be no more crowded than is Pennsylvania to-day. If those alarmists who seem to think that Virginia is in danger of being uncomfortably crowded would think of these facts for a few moments it might restore their peace of mind.

And what of Tennessee, that State of magnificent mineral and agricultural resources? Must we believe that this State is overcrowded like the rest of the South? Tennessee has an area of 45,600 square miles, and her population numbers 1,763,723, according to the latest count. As this is but 38.68 persons to each square mile, there appears to be no uncomfortable crowding in Tennessee, or if there is, we have yet to learn of it. New York comes close to Tennessee in area, but her population is more than three times as great—5,981,934, and yet New York

seems to have no trouble in finding room for all her people and occasional thousands of visitors without encroaching upon thousands of acres of forest lands and mountain wildernes. Perhaps Tennessee may also accommodate a few millions more of people without driving them into the mountains. Since 1880 Tennessee's population has increased 231,364, which would make about three cities like Nashville or ten of the size of Knoxville. More than one-half of the increase has been absorbed by the five or six cities that have upwards of 10,000 each, leaving not much over 100,000 for the increase in small towns and for the population of entirely new places. Had the increase been sufficient to swell the population of Tennessee to 5,791,200 instead of to 1,763,723, the density of population would not have been any greater than it now is in the State of New York, and not one-half of the density in Massachusetts. There does not exist in the State of New York any condition necessary for the support of a large population that is not found in equal degree in Tennessee, and there does not appear to be any economic reason why Tennessee should not be able to support thirty-three cities with populations ranging from 10,000 to 800,000 as well as New York can.

Double Knoxville and you will have Troy; increase Memphis two-fold and give it a suburb as large as Jackson, and you will have a city of the size of Rochester; gather together the people of Nashville and Chattanooga and multiply them by two, and it will still require 25,000 to make a city as large as Buffalo; build in Tennessee ten cities of Nashville's size, ten as large as Memphis, ten like Knoxville and ten with Chattanooga's numbers, and there will yet be room in the State for ten cities of 20,000 inhabitants each without making as large a population as there is in the State of New York outside of Brooklyn and New York city. There is something to think of before deciding that Tennessee has reached her limit of growth.

Alabama has enjoyed exceptional prosperity during the last ten years, and her mineral resources have undergone an extraordinary development. Her population has increased more than the population of any other Southern State except Georgia and Texas, but the State is still very sparsely settled. Upon 50,722 square miles there are 1,508,073 inhabitants,

or about 29 to the mile. Massachusetts, Connecticut and Rhode Island have an aggregate area of a trifle more than one-fourth of Alabama's, but their total population is 3,324,611, or more than double what Alabama has. In the three New England States mentioned there are about 239 inhabitants to each square mile, while in Alabama there are about one-eighth as many. What is it that enables New England to support a population so much more dense than that of the South? It is not any phenomenal fertility and productiveness of the New England soil, for rocks are the chief crop of that region, and abandoned farms in New Hampshire, Vermont and Massachusetts can be bought for a song nowadays. It is upon the manufacturing industries that the great population of Massachusetts, Rhode Island and Connecticut exists, and but an infinitesimal part of the raw material of these industries is native to the soil of New England. The great cotton mills of Lowell, Manchester, Fall River and other New England towns have to look to the South for their raw material, and the iron from Alabama feeds many New England shops. And why should not Alabama support within her own borders, and upon her own cotton, iron and lumber, cities equal to those that she maintains in distant New England? The rugged soil of Massachusetts bears 36 cities of upwards of 10,000 inhabitants each and nearly as many of from 5,000 to 10,000 each, while Alabama has hardly a dozen towns of more than 5,000 population. If Alabama were accorded the ability to support as dense a population as there is in Massachusetts, Connecticut and Rhode Island, to whose industries she supplies raw materials, there would be over 12,000,000 people instead of 1,508,073 within her borders. Even to bring the population of Alabama to the present numbers of Massachusetts would require ten more Birmingham, twenty new Annistons, four additional Mobiles and some fifteen new towns of 5,000 inhabitants each. And cannot the great State of Alabama support as many people as Massachusetts does upon about one-seventh as great an area?

Georgia has shown a marked growth in population and commercial activity during the past ten years. The increase in population has been 292,186, making the present figures 1,834,366. With an area of 58,000 square miles, this would

give about 31 to the mile if the population were evenly distributed over the State. The growth of Georgia has been in every respect steady and healthful, and there are no evidences of inflation or evanescent booming to be found. The extensive railroad system of Georgia and the great commercial importance of that State naturally suggest Illinois for comparison. Illinois has a population of 3,818,536 upon an area of 55,414 square miles, an average of 68.91 per mile. Upon this basis of density Georgia should have a population of nearly 4,000,000. So far as natural resources are concerned there is no comparison between the possibilities of the two States, for while Illinois yields little but agricultural products, Georgia has boundless mineral resources with which to supplement her plantations and forests. The manufacturing industries that give such solidity to Chicago, Springfield, Joliet, Rockford, Peoria and a score of other prosperous cities are dependent almost entirely upon the resources of other States. Georgia has within her own borders all that is required to sustain industries like those of Illinois. The population of Augusta, Savannah, Macon, Atlanta and Columbus might be doubled or trebled, and yet leave them modest cities as compared with the possibilities of their situations, and two score more cities like them might be built without presuming upon the resources of the State.

It would be but a multiplication of words to apply this reasoning to all the Southern States, for the absurdity of the alleged over-booming of the South seems too apparent upon the slightest examination to call for extended argument. Great as has been the progress and development of the South, the increase in population during the last ten years bears about the same relation to the possibilities of that region that the arrival of a few hotel guests bears to the population of New York city. There is North Carolina, with an area five-sixths as great as the whole of New England, but with a population averaging only 32 to the square mile. North Carolina has lagged far behind her sister States of the South in the development of her natural resources and the establishment of industries on account of her limited railroad facilities, but the wealth of the forests and mountains cannot be hid, and some day will witness a marvelous development in that State, of which so little

is really known to-day. There is also Kentucky, about whose natural wealth and possibilities the world is just beginning to hear. The tide of progress is flowing strongly in that direction at present, and the way is being prepared for a mighty industrial Commonwealth down there beyond the Cumberland mountains.

If there be any one feature that is more conspicuous than another in the development of the South, it is surely the substantial basis upon which all progress rests. Population is not being swelled by a vast tide of immigration as it was in the West, nor is there any of the wild speculation in land that has marked the progress of some other sections of the country. True, there has been and always will be in the South an occasional boom of quickly vanishing character, but the great work that is being done in the South, and upon which the future of that region rests, is based upon the development of actually existing natural resources and the establishment of solid and substantial industries. When it stands upon such a foundation there is no limit to the possibilities of the South, and no man can say how far development shall proceed or how numerous the towns and cities of the South shall become.

THE preliminary preparations for the congress of inventors and patented articles that will be held in Washington next April to celebrate the centenary of the American patent system will be in charge of the following gentlemen: M. C. Stone, inventor of the fountain pen, and a large manufacturer employing over 400 persons at his factory in Washington; Prof. Otis T. Mason, curator of the National Museum, who has devoted much of his life to classifying and arranging thousands of models of old inventions, which work makes the National Museum the mecca of all inventors who visit Washington; Prof. Watkins, of the National Museum, who is said to be the best posted person on the subject of all inventions relating to telegraphy and railroads; J. W. Babson, the popular chief editor of the Patent Office Gazette; ex-Congressman John Lynch, of Maine, the president of the great Potomac Terra Cotta Co., who is a well-known inventor and manufacturer; M. M. Parker, president of the Washington Board of Trade, and B. H. Warner, president of the Columbia National Bank. The duties of this committee are to select a great national committee of 100 inventors and manufacturers of patented articles residing in different States to co-operate with a local committee of 25 of that city, and to map out a programme to be submitted and adopted by a public meeting to be held in Washington early in January.

American Fresh-Water Seas.

Four great lakes cover a considerable area of the boundary between this country and Canada. This chain of inland seas is the seat of an interstate and international commerce of a tonnage so enormous that the mind can scarcely grasp the full significance of the figures required to express it. A comparative illustration is furnished by a special contributor to the New York Tribune, who begins an elaborate essay on the commerce of the lakes by saying: "Upon these lakes floats a commerce more than one half greater in volume than the combined foreign and coast-wise shipping of the two great English ports of Liverpool and London. More tons of freight pass through the Detroit river each year than the total exports and imports of the United States for a twelvemonth. During the season of 1889, which was 234 days in length, there was locked through the "Soo" canal more tons of freight than passed through the Suez in the whole year, and the volume of Lake Superior commerce, of which the "Soo" canal passages are the index, will be greater by nearly a million tons this year than last."

The development of this commerce began with the settlement of that great Northern central basin. The bold pioneers who followed the windings of the southern coast of Lake Erie, pushed their way across the Michigan peninsula, crept around the southern side of that lake and established their trading ports at the mouths of the rivers, early began to build small sailing craft and engage in exchanges with each other, and all of them with Buffalo, which was the common base of supply. As population multiplied and wealth increased, the fleet of a few sloops of small burden was gradually enlarged to a merchant marine of sailing vessels and steamers that from spring to fall carried all the commerce of the country between the coast States and the Mississippi river. Railroad construction west of Buffalo began about 1844-'45, and went on slowly for several years, the Michigan Central, which was designed to make a short cut across that State, and save the time consumed in the long voyage from Detroit via Lake Superior to Chicago, having been the pioneer enterprise. The period between 1845 and 1860 was one of railroad building on lines paralleling the lake coasts and the Ohio valley. These greatly affected the traffic by water, which from thenceforth was subject to a vigorous and aggressive competition, and for a number of years there was a serious falling off in the volume of business and in the profits of vessel owners. But as the extension of railroads to the Mississippi opened up all the Northwest to settlement and soon scattered an energetic population over its vast areas, the pendulum swung back, lake transportation be-

came again a profitable business, ship building and kindred industries were revived, and the lake ports grew to be populous and prosperous manufacturing and commercial cities.

While at present there are some fine passenger steamers on the lakes, the greater part of all the shipping is employed solely in freight traffic, grain, iron ore and coal being the chief staples and furnishing nineteen-twentieths of the entire freight. The development of the mineral wealth of the Northwest during the last half a dozen years has been almost as marvelous as in the South, although in the first the business has been largely confined to mining, in so far as iron ores are concerned, while at the South blast furnaces have been constructed and mines have been opened in close proximity. The West is an ore producer and seller; the South is from the start a smelter as well as a miner.

The increase of iron ore output in the Lake Superior region for four years has been from 4,700,000 tons in 1887 (at which time pessimists shook their heads and predicted a falling off) to 8,500,000 tons for 1890. The economical handling of this enormous output of ore requires extensive dock room at the lake ports. At the eight Lake Erie cities from whence most of the coal is shipped, and to which the ore is carried for transfer to the railroads, there are nearly 16 miles of dockage, about 55 per cent. of which is given to the ore and the remainder to the coal traffic. The ore docks average 180 feet depth, and their total dock space exceeds 10,000,000 square feet. They can handle 90,000 tons of ore daily and have a storage capacity of 6,500,000 tons. Here, during the open months of navigation, ore is accumulated, and in the winter, when the railways have got over the rush of the grain trade, they carry it to its distant destinations. From the seven miles of coal docks at Lake Erie ports there were shipped last season over 3,500,000 tons, of which Chicago took somewhat more than a third, the remainder being distributed between Milwaukee, Duluth and several other cities.

The grain trade between the Western lake cities and Buffalo is enormous. Last season Buffalo received from them 34,887,000 bushels of wheat, considerably more corn, and more than 3,850,000 barrels of flour. This season the total tonnage will probably be somewhat less, because of the failure of wheat in some parts of the Western cereal belt, although during the first 24 days of this season, which opened the second week in April, one third as much grain was shipped from Chicago alone as was exported from New York in the 12 months of 1889.

The magnitude of this water transportation has led to the equipment of extensive yards, in which steamers and sailing craft are built to order. At Cleveland, Ohio, there are two for

building steel ships, which have orders in hand that will keep them in full operation until next spring. One of the large ship-yards of Chicago has two steel steamships in the works, and those at the Michigan and other ports are all actively employed on contracts. During the past four years more tonnage has been built on the lakes than on both our ocean coasts. The output of the ship-yards compares favorably with that of the Clyde. Last July twenty-three vessels with an aggregate tonnage of 15,668 tons were launched on the Clyde, and orders for 8,000 tons were booked, while at the ship-yards of the four lakes 15 vessels of more than 17,000 tons were launched and contracts amounting to an aggregate of 18,000 tons were made.

Another great inland sea extends from Canada to the Gulf of Mexico. It, with its numerous navigable tributaries, makes a natural system of waterways for interstate commerce that has no peer in the extent of the area benefited by it, of the dense populations to whose prosperity it contributes, or to the volume and the variety of the products of agriculture, mining and lumbering that must be transported. This Mississippi basin, which is to all intents a vast inland sea, has, like the Northwest, been the scene of an immense industrial development within a brief period. From the iron and coal mines of the Appalachian mountains many more tons of iron ores and fuel have been taken during the past four years than from the region of the lakes, while corn, cotton, tobacco and other products have been much greater than the transportation facilities afforded by both the railroads and the waterways, causing continual delays vexatious to all concerned. This development knows no let up, nor can there be until production shall pass beyond current demands and force stocks upon an overloaded market—a contingency so exceedingly remote that it would be wasting time to give it serious thought.

The time is close at hand when the Mississippi will be a competitive waterway with the great lakes for the transportation of the cereals of the Northwest. The repeated experiments of the past few years made on a large scale have proven that wheat, corn and other Western products can be shipped to the Atlantic ports and to Europe via the Mississippi river at a considerable saving in freights and with equal safety and expedition, and when all facilities are provided for meeting its requirements Southern cities will share with those of the Atlantic the handling of this enormous traffic.

The miles of docks at the lake ports, built for the convenient handling of the iron ores of the Northwest, call to mind the fact that those ores have to be handled several times between the mines and the smelting furnaces, besides being subjected to freight charges for long distances,

from which several charges upon the cost of making iron and steel Southern furnaces are generally exempt. The large fleets engaged in this service on the lakes, the number of ship-yards that have been created at the principal lake ports, the numerous subsidiary industries that have sprung up around them, are all suggestive of what is to be in the future.

River cities like Memphis, Vicksburg and New Orleans, Gulf ports from Texas to Florida and all our South Atlantic ports can take a lesson and begin preparations for taking care of their proportion of the great interstate and international trade that will result from the development of the South itself, and from the close commercial ties that will be cemented between this country and Central and South America.

The South's Self-Regeneration.

The splendid courage with which the South for a quarter of a century has met and overcome the manifold difficulties and dangers of a situation without a parallel in history has excited the admiration of civilization. When Gen. Lee capitulated and his brave men found their way to their homes as best they could, they faced a situation grave enough to have appalled the stoutest hearts. Their financial losses, serious as they were, were the least of their troubles. Slavery was abolished, and the serf was not only made free, but was also given equality with his former master in civil and political rights. What would be the outcome the wisest could not foresee. To add to the perplexities of the South, there were few at the North who realized the gravity of the problems the South would be compelled to solve. War passions had not subsided. The shadows of sore bereavements still rested upon thousands of homes. Wily politicians continued to misrepresent the South to their constituencies, and kept alive that spirit of mutual distrust that prevented the two sections from "seeing eye to eye." In face of all these tremendous difficulties Southern men maintained their courage and their self-respect, and after years of wearisome struggling, undaunted patience and unrivaled efforts, they have succeeded in effecting a thoroughly mutual good understanding with their fellow-countrymen, and in securing the admiration and to a great and ever-increasing extent the harmonious co-operation of their fellow-citizens of other sections in developing the South's resources and industries.

When the MANUFACTURERS' RECORD, in the earlier years of its being, insisted that this would eventually come to pass, there were few to believe the prediction. "The old generation must die and a new one take its place before there can be fraternity in unity," said the doubters. Over and over again they were told that the Southern white race

was the most intensely American of any among our countrymen, that it came largely from English and Scotch-Irish ancestors, and had preserved all their best instincts and characteristics, and that these would enable them to accomplish the regeneration of the South, but the pessimists could or would not believe.

For the past five or six years a change of public opinion has been apparent to the most casual observer. Distinguished publicists like the late Judge W. D. Kelley, Hon. Chauncey M. Depew, Hon. Abram S. Hewitt and scores of others have visited the South, have studied it with candor, and have told the truth. Newspapers, including the religious and the literary weeklies, have discovered that their readers are very much interested in the South and are eager to learn about it, and their editors, like good journalists, are giving Southern subjects careful attention and considerable space. Last week the New York Ledger devoted a column editorial to the South, and set forth in appreciative language the "cogent reasons why all Americans should view with sympathy the striking outcome of the efforts of the South at self regeneration." It is greatly gratifying to find a popular home paper of the wide circulation of the New York Ledger laying before its hosts of readers the truths about the South which for years the MANUFACTURERS' RECORD has sought to inculcate. The editorial, having "The South" for its title, is as follows:

There are two cogent reasons why all Americans should view with sympathy the striking outcome of the efforts of the South at self regeneration. One is the ethnological character of the white inhabitants of the Southern States. The other is the unparalleled difficulty of the social problem imposed by the emancipation of the blacks. Nowhere else within the bounds of the Union are the white people so homogeneous and so distinctively American as they are in the States which were formerly slaveholding.

This homogeneity and intense Americanism was shared by New England fifty years ago, but since the sweeping emigration of New Englanders to the West and the occupation of the vacated places by French Canadians, there is a large and growing admixture of alien and unassimilated elements in the New England population. South of the Potomac, on the other hand, the ethnological conditions remain substantially what they were at the beginning of the century. If we except a few descendants of French Protestants in South Carolina and of French Catholics in Louisiana, all the white people of the South are of pure English lineage, or else are offshoots of that Scotch-Irish stock to which we owe Patrick Henry, John C. Calhoun, Andrew Jackson and, let us add, Henry W. Grady. It should also be remembered that the English and Scotch-Irish emigrants, from whom the Southern whites are descended, reached this country almost to a man before the Revolutionary War, a very small fraction of the flood of emigration having since that period been directed south of Mason and Dixon's line. The result is that if we would see the so-called native American, the typical American, the man who best represents the conjoint effect of English or Scotch-Irish hereditary aptitudes and of trans-Atlantic environment,

we are now most certain to find him in the South. Whatever triumphs, therefore, in the evolution of natural resources or in the solution of social problems are achieved by the Southern whites, have a peculiar interest and importance for genuine Americans all over this broad country.

It is too often overlooked that in the black-man problem with which the Southern whites have to deal, there are elements of difficulty unparalleled in history. When the slaves were set free in Jamaica and the smaller possessions of Great Britain in the West Indies, the sum of \$100,000,000 was voted by Parliament to compensate the planters for the loss of their capital which, in reliance on existing laws, had been invested in negro labor. If the holding of human beings in servitude was a sin, it was argued, then it was a sin in which the British government had been for centuries an accomplice, and it was deemed unjust to make a single generation of slave-owners pay the whole penalty for the accumulated wrongs of ages.

Again, when many millions of Russian serfs were liberated by Alexander II, they were not cast adrift upon the world to prey upon society, but were provided with lands which were purchased from their former masters with funds advanced by the state. By this equitable arrangement the ex-masters were shielded from impoverishment, and the ex-slaves from destitution. A tremendous social revolution was thus accomplished with scarcely any friction.

No such attempts to lighten the hardships of a social cataclysm were made in the United States. Neither were the masters partially indemnified, as they were in Jamaica, nor were the slaves equipped with the means of earning a livelihood. At one stroke the masters were deprived of the labor with which alone they could turn their lands to account, while the slaves received only the liberty to starve.

We do not hesitate to say that if the emancipation problem had been presented in these terms in Russia, its solution would have been impossible. No other race but the Anglo-Saxon, as it has been tempered and toughened on this side of the Atlantic, could deal with a problem of such stupendous difficulty. That the Southern whites have grappled with it soberly yet fearlessly, with a full appreciation of its magnitude, yet with an unwavering resolve to solve it, is a fact that reflects singular credit on the American character, and of which all of us may well be proud.

An esteemed correspondent writes from Knoxville to the editor of the MANUFACTURERS' RECORD to suggest the importance of utilizing the kaolin deposits of the South by manufacturing chinaware in their vicinity. He mentions the fact that clay is shipped from a large deposit in Western North Carolina to the Trenton (N. J.) and the East Liverpool potteries. It is natural to suppose that where large beds of fine china clay exist, there would be the spot to establish a pottery, but it does not follow by any means. For the successful manufacture of such goods clay is but one item of the materials required, and while it is of greater bulk and weight than all the others, yet it is carried at the lowest transportation rates, because it is a safe freight to handle. All hollowware of fragile materials should, for obvious reasons, be made as near to railroad or water transportation as possible, and, as a rule, at some center of distribution. Potteries for making chinaware will some day be among the profitable industries of the South, but they must be located more with reference to facilities for shipping their products than to other considerations.

THE SOUTH'S STRONG POSITION

Causes and Effects of the London Financial Crisis.

BALTIMORE, MD., Nov. 29, 1890.
Editor Manufacturers' Record:

The interesting and instructive article written by Col. Geo. B. Cowlam, which appeared in last week's issue of the MANUFACTURERS' RECORD, and presenting a clear description of the financial crisis in London, is well worthy of careful attention, notably in its relation to the wide range of opportunities afforded by the New South for the safe and profitable employment of capital in the development of its vast and unsurpassable resources.

It is to be regretted that the vicissitudes of fortune should have so fallen upon the great and time-honored house of Baring Bros. as to render it necessary for them to invoke the aid of a syndicate to meet their paramount needs.

British financiers for some time past have been familiar with the cause giving rise to the disabled condition of this ponderous engine of finance.

It is passing two years since the London financial press in vigorous and unmistakable language protested against a continuance of the enormous overflow of money being absorbed by the Argentine Republic, tending only to encourage by its magnitude the fostering and forcing into creation all kinds of enterprises to be launched. Loans and investments aggregating \$1,000,000,000, or \$250 per capita, had poured into this purely agricultural country, with its population of 4,000,000, and all clearly and totally regardless of and entirely over-reaching the economic requirements of the country or its ability to handle profitably.

As a result incident to the halt in this direction the United States became the chosen field of England's monetary corporations for hunting safe and profitable avenues of investment.

Many important industrial undertakings in the United States which gave evidence of prosperity, scope and satisfactory profits have within the past two years been combined and issued with satisfactory results to the British investor, resulting in many of these securities being eagerly sought after and readily dealt in.

The United States became the center of attraction for the investing public, attention being riveted to all issues emanating from that live source. To this fact must be ascribed, in some measure, the downward tendency and depreciation of values in Argentines. The market in this line of securities was neglected, became congested and values dropped. The channels through which to unload became narrowed, and those carrying large holdings were unable to realize at other than ruinous figures. Such clients of Baring Bros. as the Russian Government withdrawing from them their deposits at a time when they were thus squeezed is due—at least partially—to their embarrassment, which is not wholly attributable to their lending themselves to and participating in "wildcat issues."

The ripple of uneasiness following the announcement that this powerful factor in the world's finance was crippled is fast disappearing. The event, discouraging as it was, speaks unmistakably of the marvellous power and usefulness of the large monetary institutions of Great Britain, and the harmony existing amongst them. Acting as safety valves, they have released the pressure with an ease unparalleled. The prompt rescue from destruction of a kindred institution has averted a panic which, had it been otherwise, would have carried devastation to the remotest confines of commerce.

Time alone will reveal the true value of the various securities. It may be confidently predicted, however, that the Bank

of England syndicate will put promptly into force thorough measures for the zealous management of its various undertakings, so that by well-directed efforts it is reasonable to assume that not only will further shrinkage be stemmed, but values increased and established.

The prospect, therefore, of the United States continuing through 1891 to attract European capital is favorable, especially so in the Southern States recently visited by members of the Iron and Steel Institute. The marvellous growth and rapid strides made by the New South are amazing, and can alone be accounted for in its varied range of natural resources. It is veritably the source of untold wealth and enduring prosperity. There is no danger, as may be supposed, of the South's absorbing more capital than she can use, for unlike the South American Republic, it is a manufacturing as well as an agricultural country. Traffic there is awaiting railroads, not railroads awaiting traffic. The erection of cotton mills awaits the advent of capital. Iron ore and other valuable minerals, the product of which, in their raw and manufactured state, have markets already existing, await capital. There is scope for the profitable employment of money exceeding by far any other country of like area. The South, with a population of 20,000,000, would require \$5,000,000,000 to equal in proportion the amount thrown into the Argentine Republic. There is therefore no possibility of the South's absorbing more than it is capable and ready to carry and handle successfully. Undesirable schemes will creep up from time to time in the most prosperous of sections, and it behoves those interested in building the South's progress on a solid foundation to exercise all their power in preventing the appearance of any deals lacking the element of success.

ANGUS CAMERON.

LLANO, TEXAS, is the center of an extensive district whose hills teem with inexhaustible stores of iron ore. Its situation and resources were set forth at length in the MANUFACTURERS' RECORD many months since. Railroads are pushing toward it, but none have yet reached it. Announcement was made last week that the contract for constructing the Waco, Lampasas & Llano Railroad had been let, and that the section between Lampasas and Llano would be finished by the first of next October. This will insure an early outlet from Llano to the North and East that will later be extended to Waco. Meanwhile, interest at San Antonio has been renewed in an enterprise about which there was considerable stir in that city two years ago, and it is now proposed to organize a company there with sufficient capital, paid in full, to build a railroad from that city to Llano. This can be done at a comparatively moderate cost, for the citizens of Llano have nearly finished a road-bed from that place to Comfort, covering more than a third of the distance to be traversed, and if San Antonio does not indulge in longer delays, the proposed railroad can have the benefit of the road-bed already constructed. The enormous tonnage, 8,000,000 tons, of Bessemer ores carried from the Lake Superior regions to distant furnaces within a short period is an example of the traffic resulting from the development of an iron district. The opening up of the Llano mines will require much greater facilities than any one or two railroads can supply, and after Waco and San Antonio have each finished their proposed roads, which will greatly advance their prosperity, it will be impossible for them, either alone or in combination, to monopolize the immense business the development of Llano will certainly create.

Subscribe to the MANUFACTURERS' RECORD.

ANTETAM.

Plans of a Strong Company for Building a City at Shenandoah Junction.

Five Splendid Industries and a Water Works System Already Assured.

[Special Cor. MANUFACTURERS' RECORD.]

ANTETAM (now known as Shenandoah Junction), W. Va., Dec. 1, 1890.

The official announcement of the organization of the Antietam Manufacturing & Land Improvement Co., to which the MANUFACTURERS' RECORD has already made reference, is appended. The comprehensive plans for establishing industries and building a city at Shenandoah Junction, "the best unoccupied town-site in the South," can best be understood from the prospectus, which will be read with the greatest interest by all who keep track of Southern development. The officers of the company, which is capitalized at \$1,000,000, are: President, B. R. Hutchcraft, president Southland Investment Co., Knoxville, Tenn.; vice-president and general manager, W. F. M. McCarty, Hagerstown; treasurer, Edward M. Mealey, cashier Hagerstown Bank; secretary, Coleman Rogers.

The Antietam Manufacturing & Land Improvement Co., organized under a charter from the State of West Virginia, has secured at the crossing of the main line double-track Baltimore & Ohio Railroad and the Shenandoah Valley Railroad, now known as Shenandoah Junction, W. Va., a large town-site and certain valuable mineral lands and mineral rights. It is proposed to found here an industrial town to be called Antietam, after one of the great historic battle-fields of the late war. At present both the railway station and post-office are known as Shenandoah Junction, Jefferson county, W. Va. The accompanying map shows the location and its relation to other cities and towns clearly.

The town-site lands of the company comprise the best and most available lands for business and residence purposes commanding this great trunk line crossing, and comprise some 840 acres compactly situated.

Adjoining the lands of the company 200 acres have been secured as a site for building three of the largest and most important industries ever organized in the Southern States, establishments which will employ nearly 4,000 hands, mainly skilled workmen.

In addition to these industries the Antietam Manufacturing & Land Improvement Co. have arranged for certain industrial works upon their own lands which will employ in all about 500 hands. Many other industries, manufacturing and mercantile, will naturally follow this great concentration of capital and labor.

The position of the lands of the Antietam Manufacturing & Land Improvement Co., commanding the junction of these two great East and West and North and South trunk line railways through the gateway of the famous Shenandoah and Cumberland valleys, assures to the company the full benefit and values to their property of all the industries, both on their own and adjoining lands, and the company is working in full accord and harmonious co-operation with the companies whose great works will occupy the adjoining lands. The completion of these works and those on the company's land, employing a combined force of about 4,500 hands, without counting other industries to follow, will give an immediate foundation for an exceedingly prosperous industrial town of 20,000 to 25,000 people, a number more than sufficient to bring into very high value every foot of business and residence property owned by the company. This is in no sense an "acreage" enterprise, nor is it a "boom" town. Nature has

made this location the upper gateway and cross line point of the great valley extending from the Susquehanna at Harrisburg, Pa., to Chattanooga, Tenn. The controlling gaps in the innumerable mountain ranges to the west and the final ranges to the east compelled the Baltimore & Ohio to cross the valley here, and the Shenandoah Valley Road, following the rich central line of the valley, here crossed the Baltimore & Ohio for equally strong reasons. The company has secured the lands which command the whole situation, and their purpose is to here concentrate their efforts upon the work of building up a solid, compact town with first-class modern conveniences in water works, sewers, gas, good-paved streets and substantial buildings. The company has purposedly avoided greater expansion of territory, which would make their area look larger, but which would inevitably result in scattered and wasted efforts and energies, in straggling clumps of poor buildings without water, gas or drainage and connected by unpaved, muddy or dusty roads.

It is the desire and purpose of the company to make a town which shall be a profitable, productive workshop on a large scale, and a place for beautiful and comfortable residences as well, and for this there is every natural advantage in the highest degree, and the large cities and highly cultivated country all around this point, with the unlimited facilities for transportation afforded by these two railroads, combine to make the work feasible and easy.

The first in importance of the great industrial establishments to be erected upon the lands adjoining the company's lands is

A 300-TON STEEL PLANT.

This will be a complete plant with a capacity of 300 tons of merchantable steel per day. It includes not only furnaces to smelt the ores, but rolling mills to work up the product of the furnaces into finished, merchantable steel. This is a new departure, and one much needed in Southern iron making. Heretofore the South has made only pig iron for shipment and sale to Northern foundries and rolling mills, where it could be worked up into shape for use. In fact, Southern furnaces have been mainly confined to the production of foundry pig. Southern iron making centers are mainly in the fossil ore belt, suitable for foundry iron making, because it is this belt of ores which has been so far mainly opened up by Southern railways. The brown ores, suitable for making tough, ductile mill irons, are reached by the railways at but few points, while the specular and magnetic leads of ores suitable for making Bessemer steel are in the still unopened wildernesses of the Southern mountain chains. This plant will be operated by a direct and continuous process, carrying the metal, still hot from the converters and soaking pits, directly to the rolls, and aside from its mechanical arrangements for lessening the cost of production in all its progressive steps, the chemical and metallurgical processes permit the making of steel from ores high in phosphorus as well as from the so-called "Bessemer" ores—ores sufficiently low in phosphorus to permit the making of steel from them by the Bessemer process—and not only can steel of equal, but of superior quality be made from these non-Bessemer ores to that now made from Bessemer ores by the Bessemer process.

The product of this plant will have a value at the mills of not less than \$12,000 per day. It will employ about 2,500 hands, the larger part of them skilled workmen. Its pay roll will amount to about \$5,000 and \$6,000 per day.

The second of these large plants will be an associated industry for working up a large part of the steel plant product into a still higher and more valuable form of steel—a plant for making "Russian" sheet-steel, and also for converting sheet-steel

plates into a new product, impervious to the action of acids, chlorine, alkalies or sulphur.

THIS PLATE MILL.

will employ at the start about 1,000 hands, and have a pay roll of about \$2,000 per day. It will work up about 150 tons per day of sheet-steel, or about half the product of the steel plant, which will be rolled into sheet-steel for it, the other half of the steel plant's product going into merchant bar, tool steel, boiler plate, etc. The plate mill company have all the Russian processes, so long kept secret from the world, have greatly improved them in cost any quality of product, and have in addition original processes for converting sheet-steel into a product in every way superior to tin plate or block tin, at greatly less cost. For every use that block tin or tin plate is now put to this product is cheaper and better. It has the cleanliness of glass and the strength of steel for cans of all kinds, and fruits, vegetables, meats, etc., can be kept in it indefinitely without risk of metallic poisoning so often occurring from the use of tin. For every kind of hollow-ware for cooking or domestic use it is superior to tin, copper, brass or porcelain-lined ware. This country is now importing about \$40,000,000 worth of tin plate, or 400,000 tons per annum common sheet-iron covered with a thin coating of tin, the tin being less than 5 per cent. of the whole. With a cheaper product, superior and more desirable in every way, there would seem no reason why the domestic article may not be made to rapidly replace the imported one, and be largely exported besides. It is expected that the plate mill will be largely extended at an early day.

It is intended to make about 50 tons per day of Russian sheet-steel—to replace Russian sheet-iron—and about 100 tons per day of sheet-steel plate to replace tin plate, in the beginning.

The third of the larger industries will be a plant for processing, by lining or covering, or both, all sizes of water, gas and steam pipe, boiler and boiler plate, distillery pipes and tubes—now made of copper—and any and all forms of iron or steel to make it proof against weather, the chemicals of the earth or the air, or of the contents of pipe or other vessels to hold or convey water, gas or chemical solutions of a corrosive character. This plant will employ about 500 men. It will not make pipe or other forms of iron, but buy them ready made and, by processing them, make them of many times their original value at small cost and still at great profit. This plant will add about \$1,000 to the daily pay-roll.

The Antietam Manufacturing & Land Improvement Co. contributes to the steel plant 1,000 acres of very valuable mineral lands which have been secured and \$35,000 in cash when the steel plant shall have been one-third completed. The foregoing three plants will have a combined capital of about \$3,500,000. They have selected their location at this point, first, because all around it and close at hand are inexhaustible resources of the best quality of iron ores, and also the fine steam coals of the Cumberland coal field, and the unlimited supplies of coke from the Connellsburg regions. In respect of coal and iron the conditions are equal to any region further South, even in Southern regions yet unknown to the railway. But a still stronger reason governed the location of these plants. Here, in existence and in operation, is one of the best double-track railroads in the country, and there is no question of transportation facilities to any needed extent.

As these plants will require a regular transportation of material and product to the amount of 3,000 tons per day, they cannot be located upon lines of ordinary railroads with limited powers of transport, even though they may run through coal and iron regions. Therefore they preferred a point having not only a natural supply of

material, but railroads affording certain means of getting it to the plants day by day.

The industries so far secured for location on the company's lands comprise:

First.—A foundry and machine shop.

Second.—A planing mill and sash, door and blind factory.

Third.—A carriage factory.

Fourth.—A carpet factory.

Fifth.—A knitting mill.

These industries will employ in all about 500 hands, almost wholly skilled labor.

The company's town-site is in the most beautiful portion of the Shenandoah valley. It is surrounded on all sides by the rich, valuable, highly cultivated lands of the Cumberland and Shenandoah valleys. The roads of this region are the finest in the world. Its beautiful farms, with large farm houses and still larger barns, dot every part of the country. It has every advantage in the way of delightful climate and healthfulness, as well as of beautiful scenery. Nowhere else in our country can be found in greater abundance all the products of the soil, grains, grasses, fruit and vegetables, and a like abundance of cattle, sheep, swine and poultry. It is a fat land for good living and cheap living. It has on every side large cities and towns. Labor is abundant, intelligent, trained to work, and there is an unlimited reserve of it in cities all around. It cannot be doubted, therefore, that these conditions, coupled with unlimited natural resources in timber, coal, iron, clay, lime, sand and other materials all around—and transportation to facilitate their concentration—will more and more attract labor and capital here when once a start is made, and that start has been secured.

The Antietam Manufacturing & Land Improvement Co. propose to put their property on the market on the ground-floor basis, so that those who originally co-operate with them may fully and fairly share in the results.

They have secured 840 acres of the choicest town-site land. Of this 100 acres will be reserved as sites for such industries as have been secured, and for such others as may be induced to locate here on the company's land.

Forty acres, covered with beautiful timber, will be reserved, for the present at least, for a park.

The remaining 700 acres will be cut up into lots. Four hundred acres will be subdivided into 4,000 business lots, and 300 acres laid out into 1,800 residence lots.

The promoters of the enterprise retain, in payment for services in securing and getting together the land, for expenses in organizing the company, securing the location of industries and for their share of profit in the enterprise, \$60,000 in the stock of the company, fully paid up. We think no one can question the reasonableness of this share.

The remaining \$40,000 of the capital stock is to be offered to the promoters and the public on equal terms and on the following conditions:

First.—A payment of \$20 per share, payable at the time of subscription.

Second.—A payment of \$10 per share, payable 60 days from the date of subscription.

Third.—A payment of \$10 per share, payable four months from the date of subscription.

Fourth.—A payment of \$10 per share, payable six months from date of subscription.

When the foregoing payments, amounting in all to \$50 per share, shall have been completed, full paid and non-assessable stock will be issued, in shares of \$100 each, for the full number of shares subscribed for. In case of failure to make any part of the payments beyond the first payment, the stock will be issued, computed at par value, for the amount actually paid in.

Temporary certificates will be issued at

each payment is made, and on completion of payments stock will be issued and payment certificates taken up.

The company is to pay \$300,000 in cash for its lands, in one payment, and will thus receive them free from all incumbrance, so that it will not be hampered with liens or otherwise selling lots.

The \$940,000 of stock to be sold will bring in, at 50 cents on the dollar, \$470,000. This will leave for expenses and development fund \$170,000 in the treasury, available for expenses, for carrying on work of development and for inducing the location of industries, without counting or drawing upon the proceeds of sales of lots.

In addition to the town-site lands enumerated, and embraced in its payment of \$300,000, the company gets the thousand acres of mineral land to be donated to the steel plant, and also 100 acres of valuable marble and cement lands, which can be operated or sold for the benefit of the com-

all officers and employees of the company and traveling expenses, will consume, in the first six months of operations, about \$25,000. With the remaining \$95,000 it is proposed to at once begin the erection of a first-class small hotel to cost about \$35,000, and the remaining \$60,000 to devote to the beginning of a first-class system of water works.

A good hotel is a necessity. It will be a good investment and readily bring a price in excess of its cost when built, but it would be a judicious expenditure to secure it, for its indirect enhancement of the value of the company's property, even if this were not the case.

The water works will be from the start a first-class paying investment in itself, aside from the greatly increased value it will give to the company's lands. The cost has been carefully estimated, and it has been found that the amount will be sufficient to put up pumping works on the Po-

rectly in increased value to lands.

Expenditure in grading and sewerage streets will come back at once with good profits in larger prices received for lots on improved streets. A small part of the proceeds of sales of lots will take care of this work from the start without creating any debt.

Without considering the available assets outside of business and residence lots the company's resources will be large from the start. A large number of lots are already in demand and can be sold at high prices as soon as surveys now going on can be completed and a subdivision of lands made into business and residence lots. All preparations for the sale of lots can be completed by the first of January, 1891.

It is believed that within six months from the first of January 1,000 business lots can be sold at an average of \$300 each, and that 500 residence lots can be sold in the same period at an average price equally

conservative, because its value cannot under any circumstances become less than its cost, while it is a moral certainty that it must soon become worth several times the full par value of the stock.

Inquiries for additional information should be addressed to Coleman Rogers, Esq., secretary of the company, at Shenandoah Junction, W. Va., or to other officers of the company.

All subscriptions for stock must be accompanied by certified checks or bank exchange on New York to the amount of the \$20 per share required for the first payment, payable to the order of "Treasurer Antietam Manufacturing & Land Improvement Co." and addressed to Coleman Rogers, secretary Antietam Manufacturing & Land Improvement Co., Shenandoah Junction, West Virginia.

Growing Demand for Southern Timber Lands.

NEW ORLEANS, LA., Nov. 25, 1890.
Editor Manufacturers' Record:

It is very gratifying to report that amidst all the uncertainty as to stocks, bonds, banks, corporations, firms and individuals that Southern pine lands hold firm and are constantly gaining an advance in prices. Never within the experience of ten years I have followed the selling and buying of timber lands have I had such an earnest inquiry for good pine and oak timber lands. The demand comes from a class of conservative, reflecting investors, who are not enticed by the flaming "prospectus," but who carefully consider every feature of an investment before placing their money into it. At last many capitalists and people with small means who desire something solid, safe and profitable as an investment are turning their dollars into Southern pine. I am now negotiating with a gentleman from Canada for the sale of over 100,000 acres of pine land, and he assured me that he became interested in Southern timber lands through the columns of the MANUFACTURERS' RECORD. This evidence speaks volumes in behalf of the "power of persuasion" enforced by the MANUFACTURERS' RECORD with its push, energy and enlightening forces. During the past twelve months I have invested largely—over \$1,500,000—of English, Scotch and Yankee money in Southern timber lands, and out of this aggregate of a million and a-half dollars there is not an acre of land bought by my clients which I cannot today resell quickly for \$100 advance, panic or no panic.

Trade throughout our section is good and healthy. Crops are large, the marketing of which leaves in the hands of farmers considerable cash; hence the "financial flurry" gives us but little trouble. The lumber industry throughout Louisiana and Mississippi is steadily on the increase. Many new mills are being located, and with the cutting of the timber and selling of the lumber will add a large volume of cash and trade. The railway of Jay Gould from Warren, Ark., to Alexandria, La., now building, is developing a beautiful country in North Louisiana, which hitherto has been a wilderness. There is a large influx of settlers along the line of this railway; new towns and communities are springing into existence all along the route.

W. H. H.

pany, as may be found best. The \$35,000 cash donation to the steel plant company does not become due until their works are one-third completed. Their plant will cost about three-quarters of a million dollars and consume nearly two years in building. The two associated companies can be in operation in about one year, working on material obtained from other establishments until the steel plant is in operation, and on the five works named to be put upon the company's lands work can go forward at once.

In regard to these five plants, the company, in order to secure them, has undertaken to subscribe, in all, \$50,000 in cash, taking stock at par for such subscription. Deducting from the \$170,000 expense and development fund this \$50,000, will leave \$120,000. It is assumed that advertising, printing, surveys, maps and contingent expenses of all kinds, including salaries of

tomac, lay supply pipes to the junction, construct a reservoir, all sufficient to supply water for 20,000 people, and to begin a system of supply and service pipes in the town. No better investment can be made than this, and to push it forward with all speed adds to its value. It is intended to go ahead with all speed and complete the work at the earliest practical date. While the site is abundantly watered with fine springs, such as are generally considered sufficient for the supply of new towns, yet it is best to have an abundant supply both for use and the protection of property.

The demands for water by the industries to be erected will be very large, and abundant supply should therefore be assured in advance. The town company propose to build and own the water works and gas works in order to secure liberal supply and reasonable cost, which can be done with good profit directly and great profit indi-

great. These prices are less than 50 per cent. of those at which it is known many lots will be taken immediately on the opening of the property to sale. This would substantially recoup the entire outlay, out of which the company will have increased its assets to the extent expended in the hotel and water works.

This would leave as surplus assets for future sale and division 3,000 business lots and 1,300 residence lots to be sold at constantly increasing prices, the proceeds from the sale of which would be wholly profit.

We feel that this stock is well worth its par value to-day, as it is founded upon a town-site which cannot be equaled in advantages of a solid and permanent character anywhere from Harrisburg to Chattanooga. That is putting it upon the market upon the ground-floor basis named we are offering an investment that is eminently

HON. H. DUDLEY COLEMAN, member of Congress from New Orleans, La., introduced in the House last Monday a bill appropriating \$8,000,000 to repair and build the levees on the Mississippi river from the head of the passes to Cairo. This is a wise and timely proposition. This Congress has become well informed of all matters concerning that mighty waterway, and will be better prepared to act than will its successor, in which will be many new men with no knowledge on the subject.



amounts have been assessable too each, bunched any part payment, at its par issued as

in regard to these five plants, the company, in order to secure them, has undertaken to subscribe, in all, \$50,000 in cash, taking stock at par for such subscription. Deducting from the \$170,000 expense and development fund this \$50,000, will leave \$120,000. It is assumed that advertising, printing, surveys, maps and contingent expenses of all kinds, including salaries of

GENERAL NOTES.

AMONG recent grants of railroad charters is one to the Omaha, Kansas Central & Galveston Railroad Co. It is proposed to build a standard gauge road from Superior, Nebraska, where a branch of the Chicago & Northwestern terminates, and to continue across 18 counties of Kansas to the Texas border. The capital of this company is \$18,000,000. Two other projected roads that, if built, will be valuable additions to the transportation facilities of Texas, will both start from Gainesville. One will be built to the Choctaw coal fields, 120 miles north of Gainesville, and the other will pass through the Chickasaw country and connect with the Rock Island Railroad at some suitable point of intersection in Indian Territory.

* * *

SEVENTY-FIVE men are now at work on the iron furnace at Bristol, Tenn. The hot blast stoves have been finished; the foundation for the tank has been laid; four batteries of boilers are on the ground; work on the engine-house, which is to be 87x45 feet, is being dispatched.

* * *

HARRIMAN, TENN., is rejoicing in the recent organization of the Harriman Manufacturing Co., of which Mr. John Hopewell, Jr., of Boston, is president. The authorized capital stock of the company is \$1,000,000, of which some \$350,000 has been paid into the treasury. The announced purpose of this company is to use its entire capital in assisting in the establishment of new industries by subscribing from one-third to one-half of the capital needed. An effort will be made to secure such as will be of mutual advantage to each other.

* * *

GARDEN CITY is the attractive name of a town in Franklin county, Mississippi, located on the Louisville, New Orleans & Texas Railroad, 27 miles south of Harrison Junction. It has a central location on a tract of 15,000 acres owned by the Mississippi Land Co., the officers of which are John Featherstone, president, and Paul Brown, treasurer, both of Chicago; R. H. Broad, of Minneapolis, secretary. A good hotel of 30 rooms, extensive saw mills and woodworking establishments and other industrial establishments have been built. The Northwestern men who inaugurated this enterprise a year ago are said to be much pleased with their location and prospects.

* * *

TWO personal items going the rounds of the press are straws showing how the wind blows. The first says the Duke of Argyle is president of a strong British syndicate organized to purchase land and locate colonies in the South. The second is a cablegram stating that James W. Wright, an eminent engineer, is on his way to the United States to lay out the town of Carlisle in Cumberland county, Tennessee.

* * *

ACCORDING to reports, two transcontinental railroad routes have been acquired, during the opportunity afforded by the recent financial crisis, that give to the Gould and the Standard Oil Co. combination control of 31,300 miles of railroads, consisting of the following systems, viz: The Missouri Pacific, 5,000 miles; the Baltimore & Ohio, 1,700; Atchison, Topeka & Santa Fe and Gulf, Colorado & Santa Fe, 7,300; the St. Paul, Minnesota & Manitoba, 3,000; Richmond Terminal, embracing Richmond & Danville, East Tennessee, Virginia & Georgia, Cincinnati, New Orleans & Texas Pacific, 6,000; New York and New England and others tributary, 2,000; New York, Lake Erie & Western and auxiliaries, 2,500; Northern Pacific, 3,740. A northern and southern transcontinental system were thus secured. The Lake Erie &

Western figures in the northern line. The St. Paul connects the Minnesota and Manitoba districts with the Standard Oil's big docks at Duluth, whose existence is now not so much of a mystery as it was. On the southern route it is contemplated that the traffic will leave the Baltimore & Ohio main line at Cumberland, going on the Pittsburgh division to Pittsburgh, thence to Akron, thence to a line now being built to Chicago Junction. Ground has already been bought at Cumberland for new shops. The Pittsburgh & Western is being double-tracked. Pittsburgh is to have a new outlet to the lakes, and the Baltimore & Ohio will tap Buffalo.

* * *

GLASGOW, VA., had its innings on the 25th and 26th of November, at which time that new city was thronged with visitors assembled to attend the sale of lots announced by the Rockbridge Land Co. The proceedings of the first day were opened by ex-Governor Lee, president of the company, who in a few sentences told of the past and present of Glasgow and of its future prospects, the latter all the brighter because of the completion of the contract with the Canadian syndicate of London and the certainty of a large influx of capital. The auctioneer, Mr. Beckenbaugh, of Baltimore, then took the stand, and set the good example to all of his vocation by entering upon the business of the day without indulging in speech-making. The results of the two days' sales were highly satisfactory to all concerned. One of the purchasers was the Duke of Marlborough, who, with his wife, was an interested spectator.

* * *

THE Big Stone Gap Post reports a meeting of the Commercial Club, at which Mr. E. M. Hardin stated, on authority he considered reliable, that Hon. Abram S. Hewitt had determined, if certain arrangements could be made, to remove his large steel plant to Big Stone Gap. Such an accession would add 2,000 workmen and their families to this well-located town.

Affairs of the United States Rolling Stock Co.

NEW DECATUR, ALA., Nov. 29, 1890.

Editor Manufacturers' Record:

As I presume you are aware, the United States Rolling Stock Co. own plants near Chicago, at New Decatur, Ala., and at Anniston, Ala., besides some other property. Last week a receiver was appointed by the United States Court at Chicago, the president of the company, Mr. A. Hegewisch, being appointed to fill that position. His jurisdiction under this order did not extend to Alabama, so on Monday of this week Mr. Hegewisch was appointed receiver in Alabama also by the United States Court at Montgomery, Ala. Meanwhile, between the two appointments, certain creditors down here levied attachments. These have since been settled, and the works at New Decatur, which had been shut down by the sheriff, were turned over to the receiver yesterday and are in full operation again to-day.

The difficulties of the company are only temporary. They build cars to sell to railroads for cash and cars to lease on long time under what is known as the equipment trust plan. In both cases they found themselves, during the late financial troubles in New York, loaded with notes and collaterals which they could not use or realize. The receivership puts them in a position of security where they can tide over these times of stress. They have their hands full of orders, and always have had, but lack of funds through having to carry too many of their customers kept them working very irregularly.

J. H. DOWLAND.

*Subscribe to the MANUFACTURERS' RECORD.
Price \$4.00 a year, or six months for \$2.00.*

What Dallas Is Doing.

DALLAS, TEXAS, Nov. 27, 1890.

Editor Manufacturers' Record:

A very important event of recent occurrence was a visit to this city during the week of 75 or 80 members of the Kansas City Commercial Club. They made a brief tour of Northern and Central Texas, with a view of bringing Kansas City and Texas cities into closer trade relations. They were recipients of the best hospitality of the business men of Dallas during their stay here. At the banquet table Hon. W. C. Conner, the mayor of Dallas, in responding to the toast, "Dallas, the Metropolis of the Great Southwest," proceeded to show that Dallas proposes to contest for a share of Western trade, and to that extent she becomes a rival among those Western giants which in the past have in a measure monopolized public attention on the subject of rapid progress and growth. Regarding the growth of Dallas, he said:

"I want to tell my Kansas City friends and remind my Dallas friends that on this very spot on which we are dining to-night 20 years ago there stood but a few places of habitation. The territory east and north and south was not even laid out into lots, and in the short space of 20 years on the same territory to which I referred we have erected more than 10,000 houses, and there are more than 30,000 people living in them. I mention this to you to give an idea of the growth of Dallas. Four years ago I said to the people of this community, and I desire to repeat it to you, that it is just as easy to build a great city in five years as it would be if 30 years was taken to do the work. An honest, active administration, if given sufficient money to work on, can do the work in five years. As evidence of the growth of this city, I may say that four years ago we had less than one mile of street paving; to-day we have more than 35 miles of streets thoroughly paved. Less than four years ago we had less than three miles of sewer pipe in this city; to-night we have more than 40 miles of sewer pipe. Less than four years ago we had less than 13 miles of water mains; to-night we have more than 50 miles of water mains in our city. Less than four years ago we did not have a good sidewalk in the town; to-night we have 100 miles of good sidewalks."

During the week ending November 22 real estate changed hands in Dallas to the amount of \$420,856. Since the 1st of November the real estate transactions amount to \$1,186,978. The bank clearings for the week ending November 22 reached \$3,075,390.44, an increase of 78.6 per cent. over the clearings the corresponding week last year.

Dallas furnishes evidence of the correct position taken by the MANUFACTURERS' RECORD in a previous issue to the effect that the unsettled condition in the financial world would have no deteriorating effect upon the South, but upon the other hand it would have a tendency to cause capitalists to seek investments in Southern securities. Outside capital finds its way to this city by the hundreds of thousands, adding new enterprises and seeking various channels in the development of valuable resources.

Among the latest enterprises developed is the Butchers' Mutual Stock Yards Refrigerator Co., organized for the purpose of operating large stock-yards and building large refrigerator works.

The works of the Dallas Dressed Meat Packing & Refrigerator Co. were started last week and on an average of 300 hogs per day have been slaughtered and stored away. The company will begin shipping and filling orders as soon as their first run of about 2,500 hogs are packed and cured. After a run on hogs they begin slaughtering beesves. They have the finest machinery, including the most modern improvements, embraced in any similar plant in the coun-

try. The works are connected with the various railways centering here by a network of switches, and ample yards and every convenience is provided to facilitate the handling of consignments of stock. This ranks as one of the greatest enterprises in the State. It creates a better market for the hog, sheep and cattle-raiser, and it retains at home a large sum of money heretofore sent to St. Louis, Kansas City and Chicago refrigerator works for the dressed meat product. The present enterprise is looked upon as a forerunner of others which will follow in due time. With a great surplus of cattle, swine and sheep, which in the past have been shipped on hoof to outside markets, there is no reason why this should not become one of the leading and greatest industries in Texas.

The Trinity Iron Works were sold last week to Galveston parties, who have located in this city and commenced work with the view of soon completing and having in operation a plant costing \$20,000. They will erect large buildings for their business.

The Fairland Water Works & Park Co. received a charter last week to do business on \$25,000 capital. They will provide Fairland, a suburban town, with water works and a park.

The combined real estate transactions in the following named Texas cities in October amounted to \$2,821,619: Austin, \$108,357; San Antonio, \$283,449; Houston, \$169,815; Galveston, \$262,398; Waco, \$523,313; Fort Worth, \$428,599; Dallas, \$1,155,888. There is a great demand for all classes of real estate in Dallas—more this month, the dealers report, than at any time during the last several months. The November sales will be large.

The building of the cable railway on Elm street has received a new impetus, and the final completion of the road is regarded as a certainty. The enterprise, it is said, is in the hands of a new organization, which is largely composed of Dallas people, who are co-operating with the Coronado Foundry Co., of San Diego, Cal. Material has been ordered to be used in the construction of the road.

The right of way has been secured the entire distance for an electric railway from the business portion of the city to the property of the Dallas Manufacturers' Aid & Improvement Co. The projectors intend to have the road in operation between this date and the 1st of March. It is said that there is strong probability of the location of another large manufacturing enterprise on a site to be donated by the Manufacturers' Aid & Improvement Co.

MONROE, a town of the Ouachita Valley in Louisiana, has determined to have a cotton mill, and will obtain it by popular subscriptions to the stock. Several citizens have offered to donate eligible tracts of land, local brick and lumber companies have subscribed liberally, their stock to be paid for in their products, and the people generally have filled the subscription list. It is proposed to have a mill of 5,000 spindles and 150 looms.

THERE is no apparent let-up to the number of European manufacturers who are seeking locations in this country. A complete list of those which have already made contracts for properties would be somewhat lengthy, and nearly every day additions would be made to it. The new tariff act may have faults, but the influence it exercises upon foreign manufacturers and capitalists in causing the transfers of large plants from Europe to the United States is certainly a redeeming feature.

Population 2,500.

Bank Schools, Churches, Hotel, Water
Works, Splendid Residences, Excellent Society.

Old name of town, and present name of the Postoffice, is Jacksonville, the County Seat of Calhoun,
one of the Richest Mineral and Agricultural Counties in the State.

MANY LARGE INDUSTRIES SOON TO BE LOCATED.

TREDEGAR.

STEEL WORKS will include three Furnaces, Rolling Mills, &c., to produce 300 tons of Steel daily,
covering every line of manufacture from the ore to the finished Steel. The entire plant, including
furnaces, buildings machinery, &c., is under contract. Will employ 3,100 hands.

For particulars address GOLDSMITH B WEST, General Manager JACKSONVILLE MINING & MANU-
FACTURING COMPANY, (Present Postoffice, Jacksonville), Alabama.

Alabama.

DURHAM, North Carolina,

CONSOLIDATED LAND & IMPROVEMENT CO.

CAPITAL - - - \$1,000,000.

PRESIDENT, **JULIAN S. CARR**, Prest. Blackwell Durham Tobacco Co.

VICE-PRESIDENT, **A. B. ANDREWS**, 2d Vice-Prest Richmond & Danville Railroad.

SECRETARY AND TREASURER, **R. H. WRIGHT**.

This Company Owns 900 Acres of Land, 300 in the Business and Residence Portion of East Durham, and 600 in the Residence Section of Durham and Around the New Trinity College Buildings, now being erected. The First is Adjacent to Several of the Most Successful Manufacturing Plants.

* * * The Residence Portion, Notable for Beauty of Situation, has been Platted to Secure the Best Effects. *

PO EXPENSE will be spared by the Company in developing all this property. A standard gauge railroad, connecting with every railroad entering Durham, will pass through the center of the land designed for industries. A dummy line, under construction, will connect all the outlying lots with the center.

A Cotton Factory to employ 150 hands is to be built at once on the East Durham property; also a Flour and Meal Mill with a capacity of 200 barrels a day.

THE COMPANY HAS NO STOCK FOR SALE. It will offer only alternate lots, reserving others for enhancement in value by development.

Enterprises of merit will be aided by donations of sites and subscriptions to capital stock.

Some of the industries already planned are:

A Knitting Factory,	Woodworking Factory,
Furniture Factory,	Bucket and Barrel Factory,
Chair Factory,	Sash, Door, Blind and Finishing Factory,
Wagon Factory,	Spoke and Handle Factory,
Buggy Factory,	Foundry and Machine Shops,
Refrigerator Factory,	Brick Works,

In 1856 Durham was named.

Population 1865, 90 persons

Population 1890, 8,000 persons.

In 1871 the first tobacco warehouse for the sale of leaf tobacco was established.

In 1890 it has four among the largest in the United States.

Taxable Values 1890, \$6,293,898.

Rate of taxation, city, county and State, 1 per cent.

In 1869 it had 6 manufactories, capital \$25,000.

In 1890 it has 23 manufactories, capital \$12,000,000; number of employees 2,000.

Wages paid, 1890, \$750,000; advertising, 1890, \$1,000,000; paid revenue tax one year, \$827,269.54.

Durham has three Banks—capital, \$400,000.

Surplus, 49,000.

Deposits, July 1st, 1890, 623,000.

It has three newspapers, two daily and one weekly.

DURHAM HAS —————

WATER WORKS,

ELECTRIC-LIGHT PLANT,

TELEPHONE SYSTEM,

STREET CAR LINE,

FIRE DEPARTMENT,

TEN CHURCHES (for whites),

SCHOOLS,

TRINITY M. E. COLLEGE.

Situated in the center of Golden Belt of North Carolina, comprising counties of Durham, Orange, Person, Caswell, Alamance, Chatham, Wake, Franklin and Granville.

114 miles from Lynchburg.

160 miles from Richmond.

175 miles from Norfolk.

26 miles from Raleigh.

50 miles from Sanford.

135 miles from Charlotte.

55 miles from Greensboro.

DURHAM'S RAILROADS:

RICHMOND & DANVILLE SYSTEM.

DURHAM & KEYSVILLE, giving close Richmond Connection.

DURHAM & NORTHERN to Henderson, connecting with Seaboard Air Line.

LYNCHBURG & DURHAM, crossing Atlantic & Danville, and connecting with Richmond & Danville, Norfolk & Western and Chesapeake & Ohio at Lynchburg.

L. & D., to be extended to Fayetteville and junction there with Cape Fear & Yadkin Valley, crossing Robinson's System en route.

Extension of WILMINGTON & WELDON SYSTEM, already ordered by that company from Stanhope, N. C., to Durham.

Manufacturers Desiring a Location where all the Conditions of Cheap Materials, Climate and Railroad Facilities can be had in a Well-Established, Well-Advertised, Prosperous Community, Should Address

R. H. WRIGHT, Secretary and Treasurer,

DURHAM, N. C.

KIMBALL.

MARION COUNTY,

TENNESSEE.

KIMBALL TOWN COMPANY.

H. I. KIMBALL,

Vice-Prest. & Managing Director.

DIRECTORS.

HON. LOGAN H. ROOTS, President of First National Bank, Little Rock.
CHARLES P. RICHARDSON, Capitalist, Chattanooga.
J. R. STEVENS, President First National Bank, Huntsville, Ala.
A. J. MORISON, Capitalist, London, England.
J. H. BRYANT, President Seattle Coal & Iron Co., New York.
GEO. COOK, President Hallet & Davis Piano Co., Boston, Mass.

HON. H. L. COCHRAN, Judge Probate Court, Fort Payne, Ala.
H. I. KIMBALL, Atlanta, Ga.

OFFICERS.

President, HON. LOGAN H. ROOTS.
Vice-President, C. P. RICHARDSON.
Second Vice-President and Managing Director, H. I. KIMBALL.
Treasurer, J. H. BRYANT.
Assistant Treasurer, ED. E. RICHARDSON.
Secretary W. E. DONALDSON.
Assistant Secretary, W. BROOKS COVELL.

ATTORNEYS.

W. E. DONALDSON, Kimball.
SHEPHERD, WATKINS & BATES, Chattanooga.

ENGINEERS.

Landscape Engineer, NATHAN G. BARRET.
Resident Engineer, W. J. KELLY.
Sewerage and Electrical Engineers, NIER,
HARTFORD & MITCHELL.

Hon. SAM'L H. BUCK, Gen. Superintendent.

OFFICES.

Richardson Building, Chattanooga.
Union Trust Building, 80 Broadway, New York.
Company's Building, Kimball, Tenn.

Kimball Offers

Solid, practical inducements to manufacturers. First-class enterprises under good management will be guaranteed, one-half the cash required. Local taxes will be remitted for a term of years. Lowest freights and cheapest raw materials will be secured.

Auxiliary Companies

will be organized by the parent corporation for developing the wealth of the Sequatchie Valley and for supplying the city with heat, light, water, power and transportation.

A Mammoth Industrial Building

will be erected by the Kimball Town Company, which will have power, light and heat, that will be supplied to manufacturers on the most liberal terms.

Ample provision made for religious and educational institutions.

No Further Auction Sales

this year and no private sales of the corporation's lots except to those who will contract to build immediately on plans approved by the management.

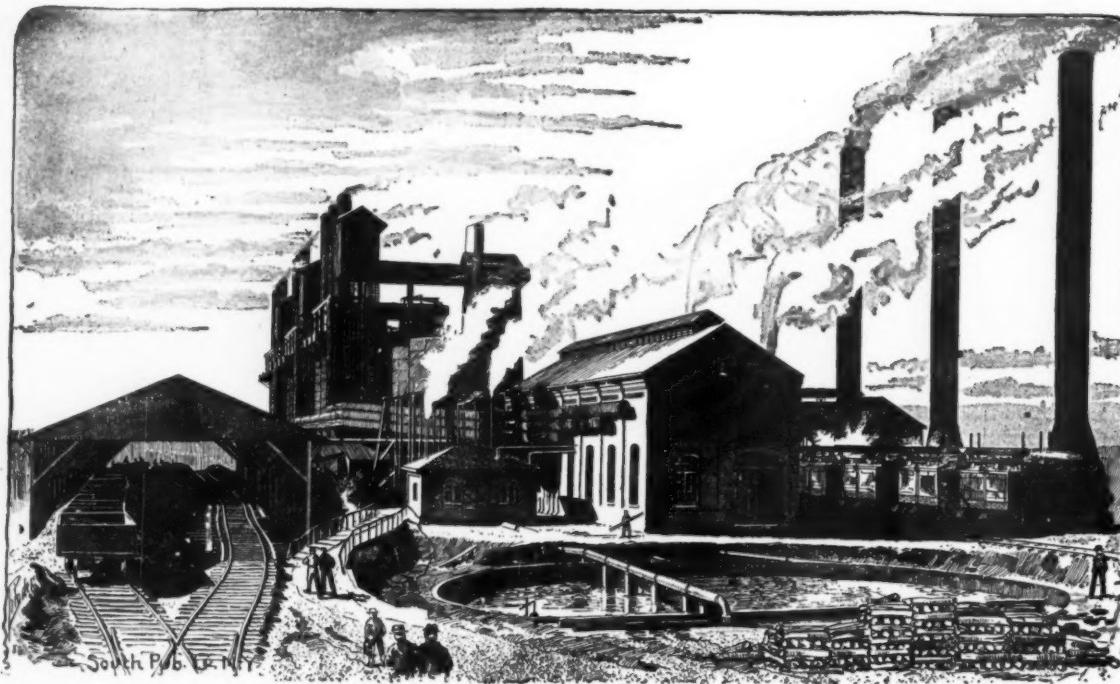
ALL CORRESPONDENCE SHOULD BE ADDRESSED TO

H. I. KIMBALL, Managing Director,

CHATTANOOGA, TENN.

SHEFFIELD, ALA.

THE SUPERB.



The following are among the corporate and private enterprises that belong to Sheffield:

The Sheffield Land, Iron & Coal Co., capital \$1,000,000.
 The Sheffield & Birmingham Coal, Iron & Railroad Co., capital \$1,000,000; the owners of three 150-ton blast furnaces.
 The Birm., Sheffield & Tenn. River Railway Co., capital \$5,000,000.
 The Hattie Ensley Furnace, capital \$200,000.
 The Lady Ensley Furnace Co., capital \$200,000.
 The Electric Light & Gas Fuel Works, \$50,000.
 The Sheffield Ice Co., capital \$25,000.
 The Sheffield Manufacturing & Constructing Co., \$30,000.
 The Sheffield Contracting Co., \$50,000.
 The Eureka Brick & Lumber Co., \$30,000.
 The Howard Brick Co.
 The Sheffield Bakery & Bottling Works.
 The Sheffield Mineral Paint Co., capital \$50,000.
 The Sheffield Agricultural Works, capital \$40,000.
 The Sheffield Cotton Compress Co., \$60,000.
 Millan Brothers, Steam Laundry.
 Enterprise Publishing Co.
 Water Works, already expended, \$30,000.
 Sheffield Street Railway Co., capital \$100,000.
 Cleveland Hotel Co., capital \$50,000.
 Sheffield Hotel Co., capital \$120,000.
 Bank of Commerce, capital \$150,000.
 East Sheffield Land Co., capital \$500,000.
 Hull & Keller's Fern Quarries.
 Mobile Real Estate Co., capital \$50,000.
 Sheffield Real Estate Co., capital \$50,000.
 Sheffield & Mobile Improvement Co., capital \$100,000.
 Sheffield Stove Works.
 Henderson Milling Co., capital \$100,000.
 Globe Iron & Brass Works, capital \$10,000.
 Standard Machine Shop & Foundry, capital \$50,000.
 Owen Pink Mixture Co., capital \$100,000.
 Bell Telephone & Telegraph Co.
 Foulds' Shoe Factory, capital \$20,000.
 Enterprise Wood Working Co., capital \$30,000.
 Buchanan Straw Goods Factory, \$25,000.
 The Sheffield Harness & Saddlery Co., capital \$20,000.
 Principal Shops of the Sheffield & Birmingham Railroad.
 Principal Shops Memphis & Charleston Railroad, now being built.

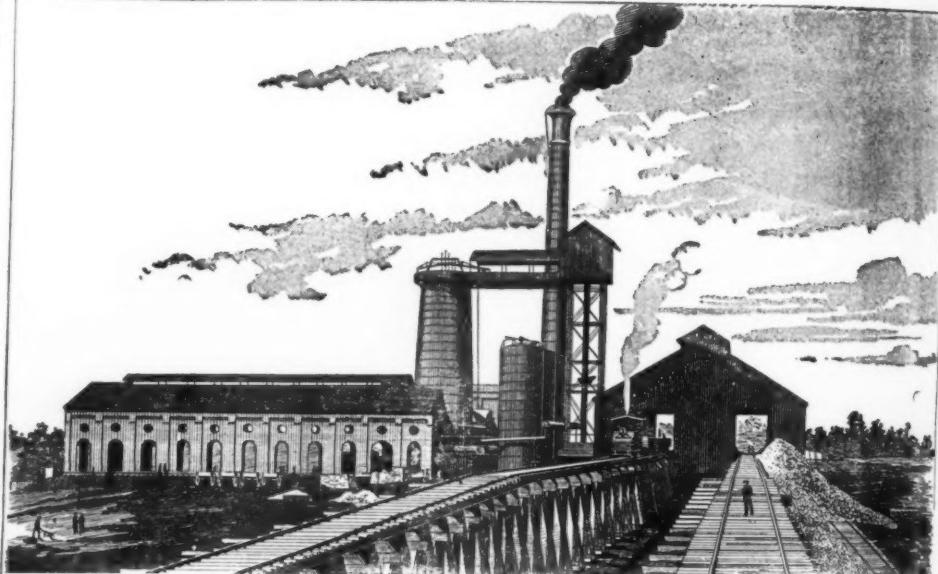
At the Headwaters of Deep Navigation on the Tennessee River, the Hudson of the South.

The Largest Producer of HIGH-CRANE Pig Iron of any City in the Entire Industrial South.

The only point in the South that has or can ship pig iron to the cities on the Mississippi, Missouri and Ohio rivers by boat or barge without rehandling. This last shipment of **5,000 tons of Pig Iron to Pittsburgh, Pa., by barge** was made at a saving of \$2.65 per ton over what any iron-producing city of the South has done or can do to-day.

Five Large Blast Furnaces

Capacity 750 tons pig iron per day.



Aside from the foregoing the following are in course of construction and may be considered positive: Principal Shops of the Memphis & Charleston Railroad; Principal shops of the Nashville, Florence & Sheffield Division of the Louisville & Nashville Railroad. Reasonably certain to be secured in the near future are the following, in regard to which negotiations are pending:
 A Rolling Mill; Large Machine Shop; A Cotton Mill.

ALABAMA'S IRON CITY.

The Superb Location at the head of navigation on the Tennessee River, commanding the outlet to immense fields of IRON ORE and COAL and magnificent tracts of the finest Timber. Has already attracted to the spot where three years ago in a cotton field her projectors set the stakes of a new city, capital and people, unequalled in amount and number, circumstances considered, by any of the so-called new cities of the South.

With eight Church Organizations, two Free Public Schools, Postoffice, Telegraph and Express offices and abundant facilities of transportation by river and rail. It has every advantage as a residence city that can be desired.

Good Water; Drainage Excellent; Health and Climate Unsurpassed. Free Public Schools and Churches. Splendid opening for men of push and energy. No better point for profitable investment. No "Old Fog" element here.

Sites for Manufacturing Enterprises

And for Free Public Schools and Churches
Donated by the Sheffield Land, Iron & Coal Company.

Printed information furnished on request. Correspondence solicited. Communications should be addressed

W. L. CHAMBERS,

Vice-President and Manager

Sheffield Land, Iron & Coal Company,

SHEFFIELD, ALABAMA

LAREDO, TEXAS.

The Gateway to and from the Republic of Mexico

Is nature's grand outlet for the manufactured products of the United States and nature's grand inlet for the mineral and raw products of Mexico. For the cheap delivery of the raw material necessary for the successful operation of iron and all textile industries, Laredo holds a position unsurpassed, every material being found in the immediate neighborhood. The very foundations of the city are upon inexhaustible coal beds, now being rapidly developed. A glance at the map will show that there are no large cities within hundreds of miles of Laredo, and her favorable geographical location, being from 600 to 800 miles nearer the trade centers of both republics than any other frontier port, stamps her as the commercial entrepot between the United States and Mexico.

Laredo is becoming a most important manufacturing point,

having the following industries already located and in operation:

Woolen Mill.

Wool Scouring Mill.

Tannery.

Boot and Shoe Factory.

Ore Concentrating Works.

Ore Sampling Works.

Cotton Gin and Milling Works.

Mineral Water Bottling Works.

Four Ice Factories.

General Car and Machine Shops of the Mexican National Railroad, the largest west of the Mississippi.

Three Large Brick-yards and several smaller establishments.

A large Cotton Factory is now being erected by a New England syndicate.

Laredo Offers to the Capitalist, Merchant, Manufacturer and Mechanic Opportunities for Investment, Business or Manufacturing such as no other City in the Southwest can offer.

The city is well supplied with railroad facilities and hotel accommodations, has Holly system of water works, two electric-light companies and one of the best equipped electric motor street railways in the United States.

	Popu ation.
1886.....	3,000
1888.....	6,000
1889.....	12,000

	Imports and Exports.
1888.....	\$ 3,000,000
1889.....	10,543,000

For Maps Pamphlets, Bird's Eye Views and Reliable Information of Laredo, address

THE LAREDO IMPROVEMENT CO.

FOR SUCH INDUSTRIES AS

COTTON MILLS,
WOOLEN MILLS,
TANNERIES,
BOOT AND SHOE FACTORIES,
HARNESS AND SADDLE FACTORIES,
FURNITURE FACTORIES,
CARRIAGE AND WAGON FACTORIES,
FLOUR MILLS,
GRIST MILLS,
CRACKER FACTORIES,
CANNING FACTORIES,
COTTON-SEED OIL MILLS,

DALLAS, TEX.

Is equal to any locality
in America in its
combined advantages of
**CHEAP AND
ABUNDANT
RAW MATERIAL
READY,
PROFITABLE
AND EXPANDING
MARKET.**
DISTRIBUTING FACILITIES,
ELIGIBLE SITES,
GOOD CLIMATE.

Any worthy industries
will be aided liberally by the

DALLAS MANUFACTURERS' AID & IMPROVEMENT CO.

711 Main Street, Dallas, Texas.

THE PLACE FOR FACTORIES.

THE ROANE IRON CO.

WILL BUILD UP A

* LARGE MANUFACTURING CITY *

AT

ROCKWOOD, TENN.

AND IS PREPARED TO OFFER SUBSTANTIAL INDUCEMENTS TO MANUFACTURERS.

O—AS TO RESPONSIBILITY OF THIS COMPANY, PARTIES ARE REFERRED TO EITHER DUNN OR BRADSTREET.—O

FOR PARTICULARS ADDRESS

ROANE IRON CO., Rockwood, Tenn

LURAY, Virginia.

2,500 Acres Town Lands,

8,000 Acres Mineral Lands,

Luray Inn and Caverns.

The Valley Land & Improvement Company,

Capital Stock, \$2,000,000.

Luray, Page County, Va.

DIRECTORS.

D. F. KAGEY, Luray, Va., President.	G. C. MARSHALL, Uniontown, Pa., Vice-President and General Manager.
T. E. McCORKLE, Lexington, Va.	DR. W. L. HUDSON, Luray, Va.
DR. A. M. HENKEL, Staunton, Va.	J. W. MILLER, Mount Jackson, Va.
G. K. MULLIN, Philadelphia, Pa.	

EXECUTIVE COMMITTEE.

D. F. KAGEY,	G. C. MARSHALL,	T. E. McCORKLE,	G. K. MULLIN.
Secretary, T. E. McCORKLE.	Treasurer, H. M. KERR, Kagey & Co.'s Bank.	Attorney, T. E. McCORKLE.	
Associate Counsel, H. J. SMOOT,	Manager of Inn and Caverns, G. K. MULLIN.		
Bankers, D. F. KAGEY & CO., Luray, Va.			

CHARTER, PROPERTIES, &c.

The Valley Land & Improvement Company has been organized under the most liberal charter ever granted by the State of Virginia.

2,500 acres for manufacturing purposes and building sites. These lands are in and around the hotel, caverns and town of Luray on an undulating plateau, protected on either side by the Massanutton Mountain and the Blue Ridge Mountains.

8,000 acres of the best mineral properties in Virginia, consisting of iron, manganese and other valuable minerals which have stood the test of examination by the ablest geologists of the country.

The company owns the celebrated Luray Inn and the Luray Caverns.

Page County stands at the head of the list as having a greater variety of minerals and richer than any other county so far as known in the State.

In addition we have the finest kind and a great variety of virgin timber and fire-clays, slates, beautiful marbles, ochres, umber and mineral paints.

LOCATION, RAILROADS, &c.

Luray, now a town of about 2,500, is the county seat of Page county, has five churches, splendid schools, fine stores, three newspapers, flouring mill, cigar factory, &c.

The town is on the Shenandoah Valley Railroad, of the Norfolk & Western system, and is the best location in Virginia, four hours from tidewater.

Two new lines projected connecting closely with Baltimore and Washington and insuring cheap freights.

Luray has largest tannery in the world, annual pay roll over \$350,000.

Inexhaustible water supply, agricultural resources, charming climate.

Fine natural sites for furnaces and manufactories of all kinds fronting the railroad, reserved by the company, which by donations of land and in every possible way will promote Luray's manufacturing interests.

LOTS, CAPITAL STOCK, &c.

Capital stock \$2,000,000, shares \$100.
One million of stock reserved in treasury for betterment.
One million now offered for sale.
Books open at the bank of D. F. Kagey & Co., Luray, Va.

The company reserves the right to close the books any time before the full amount of the one million is sold.

Twenty per cent. must be paid on subscription, 20 per cent in 30 days, the balance equally in six and twelve months.

When half of the subscription is paid in subscribers have the right to use their stock in payment on lot purchases.

The company feels safe in saying that with the magnificent property in hand, the Inn and Caverns, it will be enabled when thoroughly under way to pay four or five per cent. dividend on the stock sold, independent of lots and mineral lands.

The company already owns an electric plant which will be considerably enlarged.

Complete system of water works and many other improvements projected. Investors are referred to Mr. J. W. Wheeler, Cashier Drovers and Mechanics' National Bank, Baltimore, Md., for full information. H. C. Turnbull, Jr., real estate agent, 52 Lexington street, will receive subscriptions of stock in Baltimore.

The fullest investigation invited.

THE VALLEY LAND & IMPROVEMENT COMPANY, LURAY, PAGE COUNTY, VA.

DENISON, TEXAS.

The Queen City of the Southwest

AND

GATEWAY TO THE GREAT STATE OF TEXAS.

The City of Denison Presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

DENISON is situated in Northeastern Texas near inexhaustible beds of Coal and Iron, surrounded by the finest Fruit Lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The Houston & Texas Central Railway has its northern terminus here. The Choctaw Coal & Railway Co. have recently completed a survey of a line from Hartshorn, I. T. (a junction point with the main line of their road) to this city. The Denison, Sherman & Dallas Railway is now being constructed from here to Sherman, and four other roads have located lines to this point, with very good prospects of building.

The first public school in the State was established here, and the city's elegant two and three-story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year. We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works. Rate of taxation low.

The city has six miles of street railway, and a seven-mile-motor railway; has an electric light and gas company and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

The erection of a large hotel to cost \$125,000, and a steel plant with \$2,000,000 capital is contemplated.

The population of the city by census of 1890 shows a gain of 170 per cent. in ten years.

35,000 bales of cotton were shipped from Denison in 1890, and many carloads of fruit and early vegetables are shipped annually.

The Denison Canning Co., capitalized at \$100,000, has one of the largest canning factories in the country.

The Denison Cotton Manufacturing Co.'s 25,000-spindle mill, to cost \$500,000 and to employ 650 hands, will be completed by January 1st, 1891.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory is now increased from a daily output of 30 to 50 tons.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

THE DENISON LAND & INVESTMENT CO.

Paid-Up Capital, \$1,200,000.

DENISON, TEXAS.

OFFICERS.

W. P. RICE, President.

MILTON H. FRENCH, Vice-President.

B. J. DERBY, General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

DIRECTORS.

W. P. RICE, Kansas City, Mo.

J. M. FORD, Kansas City, Mo.

SAM STAR, Denison, Tex.

MILTON H. FRENCH, Thomaston, Me.

B. C. MURRAY, Denison, Tex.

JOS. B. LINCOLN, Boston, Mass.

Write to the * * * *

*The
Richest.*

*Best
Managed.*

CARDIFF

*Greatest
Resources.*

*Unequalled
Opportunities.*

* * * * Coal & Iron Co.

CARDIFF, ROANE CO., TENN.

Cedar Grove Industrial Company

Chartered Under the Laws of West Virginia.

CAPITAL - - - \$500,000.

OFFICERS:

ROBERT A. WOOLDRIDGE, PRESIDENT.

ELLIOTT BARD, TREASURER.

CHAS. C. TOMPKINS, VICE-PRESIDENT.

CHAS. H. GRASTY, SECRETARY.

DIRECTORS:

ROBERT A. WOOLDRIDGE, R. A. Wooldridge & Co., Importers and Manufacturers of Fertilizers, Baltimore.

CHAS. C. TOMPKINS, Secretary West Salem Land Co., Salem, Va.

ELLIOTT BARD, Bangs, Bard & Co., Wholesale Boots and Shoes, Baltimore.

CHAS. H. GRASTY, Manufacturers' Record, Baltimore.

WARREN C. BIRD, J. Edward Bird & Co., Wholesale and Retail Dry Goods, Baltimore.

JAMES THURSTON, Fertilizer Materials, Storage, &c., Baltimore.

GEORGE ALLEN, President West Salem Land Co., Salem, Va.

DR. JAMES BOSLEY, Physician, School Commissioner 14th Ward, Baltimore.

GEORGE W. K. RWAN, Gents' Furnishings, Baltimore.

ATTORNEYS:

WATTS & ASHIBY, CHARLESTON, W. VA.

RHODES & RHODES, BALTIMORE, MD.

THIS Company holds contracts of purchase for about 165 acres of town-site property, including water front, and 1,300 acres of coal land immediately adjacent, where the present town of Cedar Grove, Kanawha County, W. Va., is now located, at the Junction of Kelley's Creek with the Kanawha River, about midway between Kanawha Falls and Charleston.

POSITION AND TRANSPORTATION.

Cedar Grove, which this company acquires, is the controlling point and sole outlet of the Kelley Creek basin, the area of which is 64 square miles. This is the backbone of the great Kanawha coal field, and is conservatively estimated to contain several billion tons of coal, all of which must be tributary to Cedar Grove, which, with its riparian rights, and the ample facilities which this company will provide, will be in a position to materialize its extraordinary natural advantages. The valley of Kelley's Creek, which extends through the back country, affords the only means of getting the coal out to transportation, owing to the mountainous country, and this company owns the level land at the mouth of the creek, where nature has made one of the few town-sites to be found on the north side of the Kanawha between the head of navigation and Charleston, the mountain sides uniformly coming down to the river and leaving scarcely enough room for a railroad track. At Cedar Grove, however, the creek has made a valley wide enough for a town of no mean proportions.

The company owns *two miles of water front*, from which the entire output of a rich area, containing many millions of dollars worth of coal, must be loaded on barges for shipment to market. This advantage alone makes the capital stock of the company seem insignificant. The question as to how our riparian rights shall be used—whether they shall be sold at from \$3,000 to \$5,000 an acre, the present market value, or held by the company and tipplers and other facilities erected and operated, thus affording a large and permanent revenue, is one for the discussion and decision of the company after it is fully organized. The transportation feature is very satisfactory. Our water front is on a deep pool, between two locks in the river, thus giving ample harbor room, with all-the-year-around navigation to Cincinnati, Louisville and the Ohio and Mississippi Valley. Cedar Grove enjoys the wonderfully low rate of 2 mills per ton per mile, and the tariffs of the Chesapeake & Ohio just across the river are, it is claimed, the lowest in the United States. The Kanawha & Michigan Railroad is within a few miles of Cedar Grove, and building toward it on the north side of the river. It will thus be seen that the company will have rare transportation advantages.

TOWN-SITE.

Included in the company's property is the town-site of 165 acres of land admirably adapted for residence and business purposes. The smallness of this area compared with the site of many new towns is a decided advantage, as it compels a concentration of all business in a more limited space, and makes it impossible to have a town scattered over ten times as much ground as will be needed for years to come. On this account it greatly enhances the value of every lot on the property. There will be about 1,000 lots, which, at the very conservative estimate of \$300 each, would yield \$300,000.

COAL LANDS.

Our 1,300 acres of coal lands are estimated to contain in the several veins an aggregate of over 60,000 tons per acre. There are seven horizontal, workable veins, all of which have been worked at one or more points. The coal has an established reputation for steam and domestic uses. There is an abundance of good coking coal. All the coals are mined at a minimum of expense and under almost ideally favorable conditions. The coal property, it is believed, can easily be made to pay a good profit on the entire capital stock, as owing to its superior quality, there is a ready market for all that can be mined. One vein of this coal is preferred by large manufacturing concerns over the best grades of Pennsylvania steam coals; and another vein of this coal is pronounced by the gas works of a large Western city to be the best gas coal that they have ever used.

PRESENT IMPROVEMENTS, CLAY, STONE, &c.

The improvements on the coal property consist of a large double, two-story brick store; cost about \$6,000. From 40 to 45 miners' houses, regarded as

among the best miners' houses in the valley. The railroads, tipplers, &c., are in good order. The output of one vein from May, 1888, to May, 1889, was in excess of two million bushels. On the coal property proper there is about half a mile of river front, and on the other property about a mile and a half, with two miles of railroad frontage on the Kanawha & Michigan road, which is to pass through the place.

On the mill property there is a three-story roller flour mill with a five-story elevator, recently refitted with improved machinery at a cost of about \$17,000. The mill is within 50 feet of the railroad on the one side and 150 feet of the Kanawha river on the other side. There are one good dwelling house for the miller, two good tenement houses for mill hands, a cooper shop, an inclined plane to the river, and all appurtenances for the running of a flour and grist mill.

On the coal property there are three blacksmith shops, necessary for the coal mine.

Near the drum house at the mouth of the mine is a large 30-horse power engine, with fans attached for supplying air for ventilation of the mine.

In addition to the coal on the 400 acres, bought from H. P. Tompkins, there is a large vein of white sandstone immediately on the river front, which is very valuable for building purposes, easily cut, and hardens when exposed to atmospheric influences. From actual tests made in Washington city by the government engineers, this sandstone stood a greater degree of hydraulic pressure without crushing than any sandstone that had ever been experimented upon by the government officials.

A clay for manufacturing brick found upon the bottom land is unsurpassed by any brick clay found in the Kanawha valley. The depth of this clay is as great as 20 feet, commencing within a foot and a half of the surface.

A clay found in the bottom of the Cedar Grove vein is in every respect suitable for fire-brick and tiling, it having been thoroughly tested. This is produced without cost, as in operating the mine it can be taken out without adding to the expense of operation.

Thus, the company will own at the start—of revenue-producing assets—a coal property in profitable operation, a large flour mill doing an excellent business and having an established trade, a \$6,000 brick store building and forty or fifty miners' houses in good condition. In addition to this will be the town-site of 165 acres, 50 to 100 villa lots on the hillsides, the 1,300 acres of coal land and the riparian rights of two miles of water front.

SUBSCRIPTIONS TO THE CAPITAL STOCK.

There will be \$400,000 of the capital stock available for subscription, or 40,000 shares at \$10 each. Assessments will be as follows: \$1.25 per share when subscription is made, \$1.25 in sixty days thereafter and \$1.25 June 15. There will then be no further assessments until November 1, 1891, and from that time on it is guaranteed that should it be found necessary to make other assessments they shall not exceed 20% per annum on the stock subscribed.

The policy of the company will be to limit assessments to actual necessities in meeting deferred payments and in developing the property. It is possible that the June assessment referred to will not be called for, as the sale of lots which will take place in the spring is likely to realize sufficient money to take care of deferred payments and provide ample funds for developments. The company, however, wishes to put itself in position to carry out all its plans, regardless of the sale of lots. It is a reasonable expectation that the subscriber will never be called on to pay any assessments beyond the first three.

Subscriptions must be made in writing, must state the name and address of the subscriber, and the amount subscribed. No subscription will be accepted for more than 1,000 shares for any one subscriber. For further information call on or address

ROBERT A. WOOLDRIDGE, President,
CHAS. H. GRASTY, Secretary,
ELLIOTT BARD, Treasurer,
OR CHAS. C. TOMPKINS, Vice-President,
Baltimore, Md.

The Middlesborough Town Company,

ALEX. A. ARTHUR, President.

JOHN B. CARY, Sec. and Treas.

Fourteen months ago the population of the present site of Middlesborough, Ky., did not exceed 50; to-day the town has a population exceeding 6,000. It is a conservative estimate to say that in three years 50,000 people will be living here.

The amount of capital now invested in the development of Middlesborough reaches

\$26,500,000.

The history of the world does not show an instance of such amazing development in so short a time and on so sure and solid and permanent a foundation.

The developments here are in the hands of English capitalists, whose purpose it is to create around Cumberland Gap the greatest coal and iron development the world has ever known.

Statement of Development to September 1, 1890.

	Number.	Value.
Business houses erected and occupied.....	83	\$ 285,000
Business houses being erected.....	41	441,500
Business houses contracted for, to be completed by Jan. 1, 1891.	31	176,500
Residences erected and occupied.....	280	417,250
Residences being erected.....	97	228,450
Residences contracted for, to be completed by January 1, 1891.	72	161,450
Industrial plants in operation.....	16	289,500
Industrial plants building.....	27	2,872,500
Industrial plants contracted for.....	14	750,000
Hotels built and occupied.....	7	132,000
Hotels being erected (including Harrogate and Cumberland Gap).....	6	850,000
Hotels contracted for.....	3	45,000
Churches completed.....	5	22,500
Churches being erected.....	3	18,000

PUBLIC BUILDINGS.

Schoolhouse.....	3,500
Public library and exhibition hall.....	25,000
City hall.....	10,000

The above statement includes only cost of construction, and does not include working capital or value of properties or stock.

BANKS.

	Capital.	Deposits.
Coal & Iron Bank.....	\$1,000,000	\$430,000
First National Bank (to be increased to \$100,000).....	50,000	160,000
People's Bank.....	500,000	120,000
Bank of Middlesborough (to be increased to \$100,000).....	50,000	60,000
Bank of Cumberland Gap.....	50,000	17,000
Bank of Claiborne	25,000	10,000
Total.....	\$1,675,000	\$797,000

POPULATION.

The population of Middlesborough was fifty souls in May, 1889. In August, 1890, about 6,200. Including the plants that are now completed and those that are in course of construction, which, by contract, are to be completed inside of fifteen months, Middlesborough will have a working population, composed of skilled and unskilled labor, of 7,688 men, which, according to all acknowledged rules, will give the city in eighteen months nearly 40,000 inhabitants.

NOTE.

Two years ago the nearest railroad was at Corbin, on the Louisville & Nashville System. To-day there are in Middlesborough the Louisville & Nashville, the Knoxville, Cumberland Gap & Louisville Railroads, the Belt Line and, by traffic arrangements, the Norfolk & Western and the East Tennessee, Virginia & Georgia Roads, with others building.

FOR CIRCULARS AND ALL OTHER INFORMATION ADDRESS

JOHN M. BROOKS, Resident Manager,
MIDDLESBOROUGH, KY.

SAVERNAKE,

Rockbridge County, VIRGINIA.

—* The Latest and Most Attractive Addition to Buena Vista. *

The Phenomenal Success of which New Industrial City has made Necessary Future Extensions on the same line of Valuable Minerals,

WITH UNRIVALLED FACILITIES FOR TRANSPORTATION.

SAVERNAKE adjoins Buena Vista on the southwest; fronts on Shenandoah Valley Railroad and on James River Division of the Chesapeake & Ohio Railway.

High Grade Manganese and Iron Ores to Steel and Iron Trades.

* **SAFETY AND PROFIT TO INVESTORS.** *

Healthy and Picturesque HOMES at Moderate Prices to Lot Buyers.

The Advantages of an Established City, with Churches, Schools and Factories adjoining. Employment for Mechanics and Laborers. Active Trade to the Storekeeper. Consuming Industries, with a Ready Market for product to the Manufacturer. Avenues connecting with those of Buena Vista, to Insure Convenient Access, through Street Car Lines, already Projected from that City.

Is laid out in conveniently-sized lots to suit all in Prices and Location.

SAVERNAKE

RESIDENCE LOTS. BUSINESS LOTS. MANUFACTURING SITES.

THE INDUSTRIES already secured, and which will be further announced weekly in the MANUFACTURERS' RECORD, guarantee rapid profits, free from speculative features, to all purchasers.

The LOCH LAIRD ESTATE & MINERAL CO., Limited,
LONDON, ENGLAND,

Of whose property Savernake forms a portion, having already sold a considerable number of lots to investors in London, and being in negotiation with both English and American capitalists for further sales, offer lots in Savernake to the American public, confident that their location will render values at once apparent, and guarantee every effort to sustain and foster this enterprise, both in the United States and England. Maps of Savernake and all particulars of information may be obtained upon application to

Loch Laird Estate & Mineral Co., Limited,

THOMAS DUNLAP, MANAGING DIRECTOR.

Postoffice Address—Triford, Rockbridge Co., Va.

SAVERNAKE, VIRGINIA.

Railroad Station for both Shenandoah Valley Railroad and Chesapeake & Ohio Railway, Loch Laird Station, Va.

* SAVERNAKE, *

Rockbridge County,

Virginia.

THE PROPERTY OF THE

Loch Laird Estate & Mineral Co., Limited,

of which Savernake is a part, is in active development, having extremely rich and valuable deposits of

MANGANESE, IRON ORE,

*CEMENT ROCK, BROWN STONE, BRICK AND FIRE-CLAY,
BUILDING STONE, KAOLIN.*

Arrangements have been concluded, or are in course of negotiation with the following

INDUSTRIES:

Tin-Plate Works, product 3,500 boxes I. C. Tin-Plate weekly.
Ferro-Manganese Furnace.
Ornamental Brick and Tile Works.
Slate Brick Works—patented process.
Manganese Grinding Works.
Cement Kilns and Mill.
Planing Mill and Woodworking Mill.
Iron Foundry and Machine Shop.

WITH THESE ARE PROJECTED :

An Eighty-Ton Blast Furnace.
A Coke Plant.
An Open Hearth Steel Plant, with Plate Mill and Galvanizing Works.

In addition to the foregoing, the following industries have been offered during the past week :

AN IRON BRIDGE WORKS, employing 600 hands.
LOCK FACTORY, HARDWARE FACTORY and a very large
MALLEABLE IRON WORKS from New England.

SALE OF LOTS.

The favor with which Savernake has been received has enabled the company to announce the sale to a syndicate of

SEVEN HUNDRED LOTS,

Equitably distributed throughout the town plot. These lots compose the most

Desirable Residence and Building Lots,
with superior location and magnificent views.

RESIDENCE LOTS, 50x125 feet, 50x175, 50x200 and of larger size when desired.

BUSINESS LOTS.

The map of Savernake contains

TEN BLOCKS OF BUSINESS LOTS.

Fronting on the Industrial Reservation and on Savernake, Victoria and Brudenell Avenues. Many of these have been sold, and at present prices offer a most desirable opportunity for profitable investment.

Especial Reservation of Lots for Mechanics and Workingmen
desiring to build houses. Equitable prices and
easy terms of payments.

The Goshen Land & Improvement Company

OF GOSHEN, VIRGINIA.

Goshen, the Gateway connecting the Virginias.

The Coming Railroad Center.

Goshen fulfilling prophecy in becoming the Great Iron Manufacturing Center.

Surrounded by the wonderful Mineral Springs Belt, where thousands from all over the land congregate during the Summer. Great Industries located here:

More to follow

Car Works, to manufacture Passenger, Freight and Electric Cars, are now being built.

Works covering 15 acres of ground.

Large Rolling Mill under construction.

Keystone Machine Company's building nearly completed.

Woodcock Iron Works building now under construction.

The Palace Hotel, the finest building in Virginia, under contract to be completed

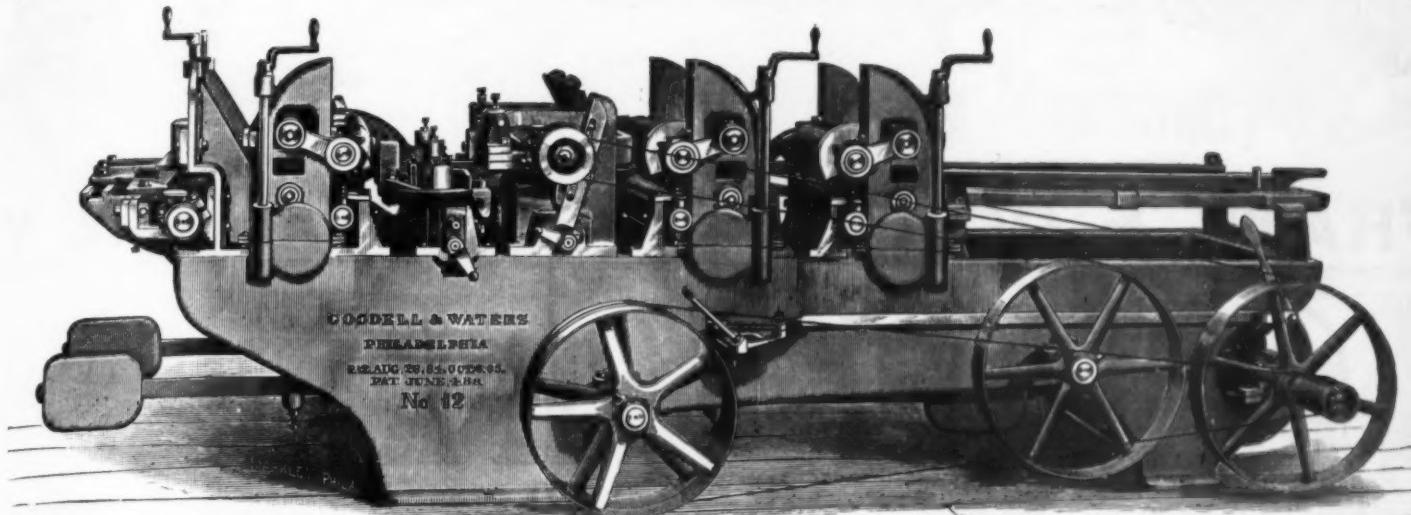
July 1st, 1891.

Industries already secured and under construction guarantees the success of Goshen as a Manufacturing Center.

GOODELL & WATERS,

BUILDERS OF

Wood Working Machinery



No. 12 SIX-ROLL PLANER AND MATCHER.

To Double or Single Surface 24 inches wide up to 6 inches thick and match 19 inches wide. Weight 7,000 pounds.

Our line of Planing Mill Machinery is very complete. During the past year we have introduced many new and improved tools, and you will do well to consult our catalogue Estimates cheerfully given for complete mill outfits.

GOODELL & WATERS,

Western Warerooms, Chicago and San Francisco.

MANUFACTURERS,

3002 Chestnut Street, Philadelphia, Pa.

ESTABLISHED 1853.

THE WHEELER, MADDEN & CLEMSON MFG. CO.

MANUFACTURERS OF

Hand, Cross-Cut and Wood Saws,

MIDDLETOWN, NEW YORK.

No. 24 HAND, PANEL AND RIP SAWS.



No. 24 Hand, 26-inch, list \$20.00 per dozen.

Extra thin back, patent handle, hollow back blade, perfect temper, elegant finish, superior filing.
PRICE, QUALITY AND GENERAL SUPERIORITY taken into consideration, this is by far the best Saw for the mechanic's use.

THE NARROW CHAMPION, complete with our new patented No. 8 handle; also furnished with either the Diamond or Great American Tooth.



THE CHAMPION EXTRA THIN BACK CROSS-CUT SAW.

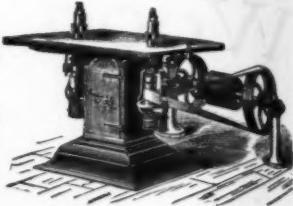
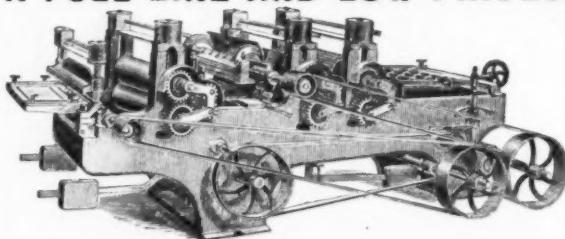
ALL GENUINE CHAMPION SAWS are etched with the word "CHAMPION," which is our exclusive trade mark. All infringements of the same rigorously prosecuted. We manufacture Cross-Cut Saws in all the leading shapes and sizes and styles of teeth, and have the best line of patented handles made. The Nos. 24 and 27 Hand Saws for 1890 are the finest brands ever produced. Manufacturing our steel exclusively for our own goods, and employing many new machines and processes owned and used solely by us, we are enabled to put upon the market a line of Saws that stand to-day without a rival. All Saws bearing our name are fully warranted in every particular. We challenge comparison. FOR SALE BY ALL LEADING JOBBERS AND DEALERS.

WOOD-WORKING MACHINERY.

Planing,
Matching,
Moulding.
Tenoning,
Mortising,
Boring,
Shaping,
Carving,
Etc.

A FULL LINE AND LOW PRICES.

Write for
new illustrated
catalogue
(just out) and
our
latest price-list
Mention
this paper.



MACHINERY AND COMPLETE OUTFITS.

FRANK & CO. 176 TERRACE STREET, **BUFFALO, N. Y.**



Wood Working Machinery

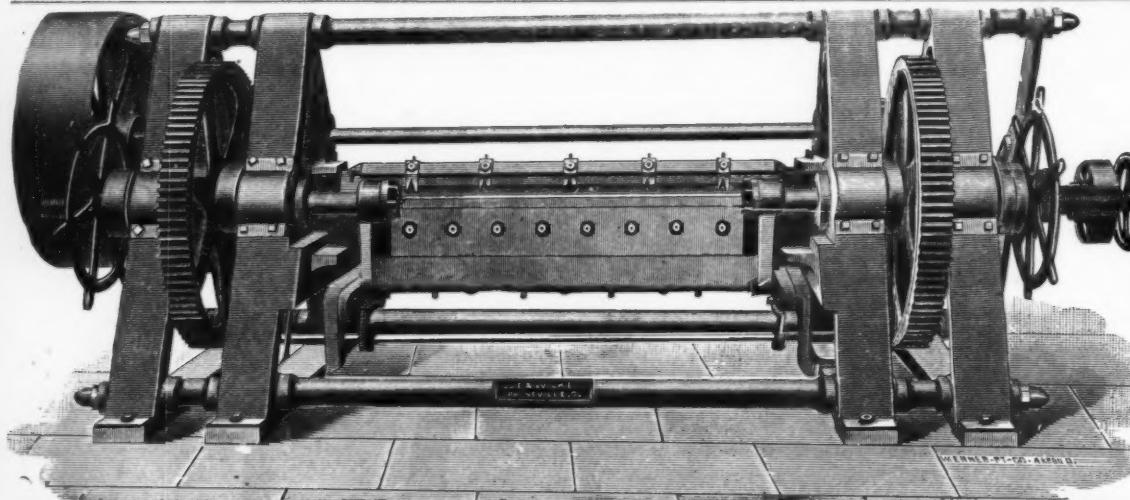


COMPLETE OUTFITS FOR PLANING MILLS

H. B. SMITH MACHINE CO.

Send for catalogue and visit our extensive
warehouses if possible.

925 MARKET STREET.
PHILADA, PA., U. S. A.



IMPROVED
ROTARY-CUTTING
Veneer Machines
STRONG, SOLID,

Durable, Accurately Made, Double Driven, Positive Feed, Completely Adjustable. AUTOMATIC CHANGE OF PITCH varies the pitch of lath to the varying size of log, always holding it in position to do the smoothest, soundest cutting in all sizes of log and thickness of cut—the perfection of cutting. Built in all sizes within practical limit. Adapted to the production of all kinds of thin-cut lumber. Also builders of Clippers and Rolling Cutters for Dimension Veneer Stock and Special Machinery. Send for circulars.

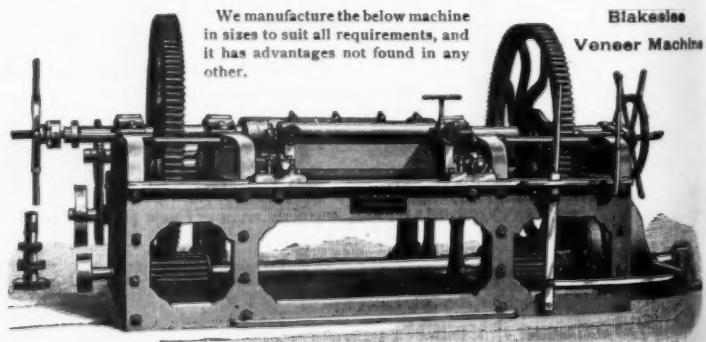
COE & WILKES,
PAINESVILLE, OHIO.

"LESLIE" ROLLER.



The above Roller is for making the "Leslie" or octagon berry box, and can be supplied for any kind of machine. Write for catalogue to the

DuQuoin Iron Works Co.
DUQUOIN, ILL.



We manufacture the below machine in sizes to suit all requirements, and it has advantages not found in any other.

Blakeslee
Veneer Machine

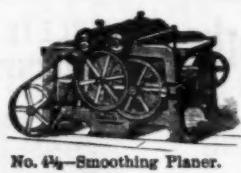
FILE ROOM MACHINERY

For Saw Mills and
Woodworking Factories.

COVEL MFG. CO.
CHICAGO, ILL.



No. 5-P Pacific Planer and Matcher.



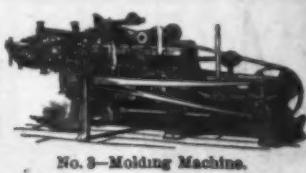
No. 4-P Smoothing Planer.



Horizontal Borer.



No. 2-S Self-Feed Rip Saw.



No. 3-M Molding Machine.



W. H. DOANE, Pres't.

J. A. FAY & CO.

CINCINNATI, OHIO.

D. L. LYON, Sec'y.

Manufacturers of
—PATENT—**Improved Wood-Working Machinery**

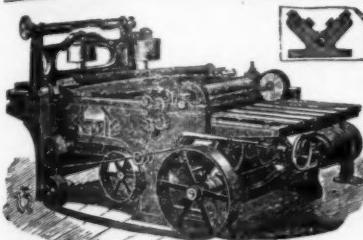
OF EVERY DESCRIPTION,

For Planing Mills, Sash, Door and Blind Shops, Furniture, Carriage and Wagon Factories,
Spoke, Wheel and Agricultural Works, Car Shops, etc.

Awarded "GRAND PRIX" at the Great PARIS EXPOSITION of 1889.



No. 2 Hand Saw.

Every Machine Tested and Warranted.
Send for Circulars and Estimates.

Diagonal Planer and Polisher.

ROWLEY & HERMANCE

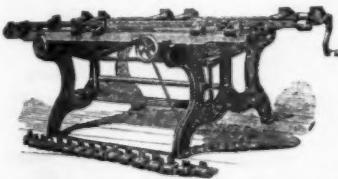
WILLIAMSPORT, PA., U. S. A.

Manufacturers of the Finest and Most Complete Line of

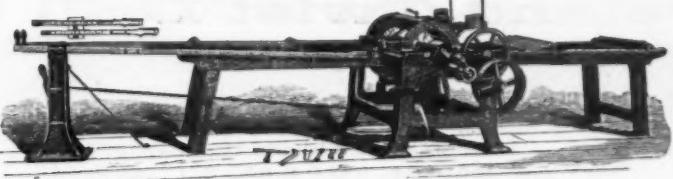
Wood-Cutting Machinery

IN AMERICA.

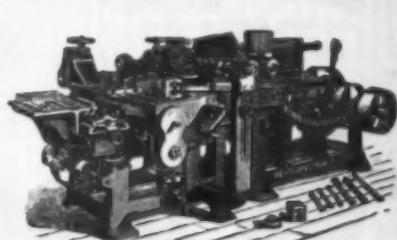
Write for Illustrated Catalogue and Special Prices.



Patent Door and Blind Clamp, with or without Sash Attachment.



No. 2 New King Power Feed Gang Rip Saw.



Improved 9-inch and 10-inch Moulder.

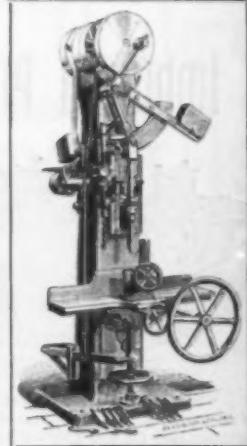


Phillips Patent Sash Clamp.

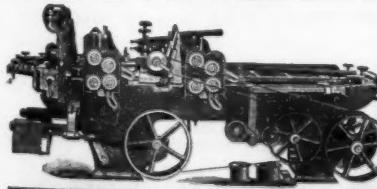
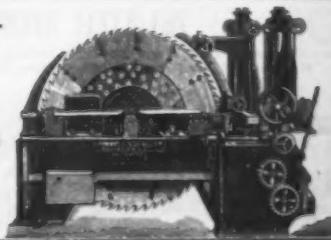
THE EGAN COMPANY,

228 to 248 West Front St.

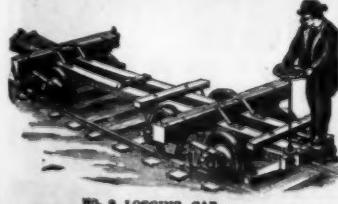
CINCINNATI, OHIO, U. S. A.

PERFECT
POPULAR
PRACTICAL
PROFITABLEThe Newest
Mechanisms of
American Ingenuity.COMPLETE
OUTFITS
FURNISHED.ORIGINATORS,
DESIGNERS
AND
BUILDERS.**WOOD
WORKING
MACHINERY**For Planing Mills, Sash, Door and Blind Work; Saw
Mills, Furniture, Chair and Bracket Factories; Car,
Railway and Agricultural Works; Buggy, Carriage
and Wagon Builders; Spoke, Wheel and Handle
Factories, and General Wood Workers.No. 3 Heavy Mortise and Borer.
Suitable for light and heavy work,
especially for light car work, agricultural
implement and wagon work.**CONNELL & DENGLER,**

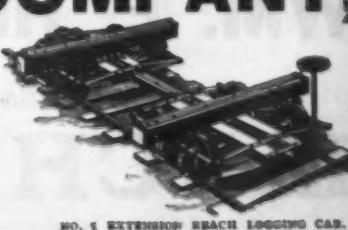
MANUFACTURERS OF PATENT IMPROVED

Wood Working Machinery, Planers, Matchers,
PONY PLANERS, HAND MATCHERS,
SOLID PLATE AND SEGMENT RE-SAWS, BOX BOARD PRINTING PRESSES,
ROCHESTER. N. Y.**RUSSEL WHEEL & FOUNDRY COMPANY,**

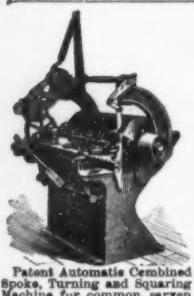
Detroit, Mich.

Logging Cars,

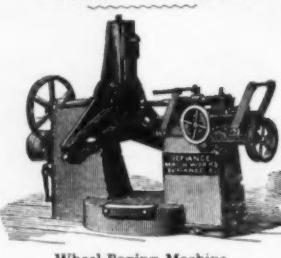
And Cars for Lumber, Mill, Wood and Mining Purposes.



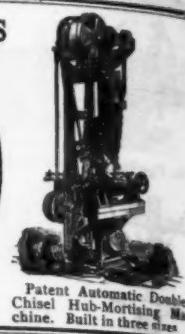
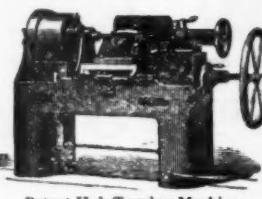
No. 3 Extension Reach Logging Car.



Established 1850.

**Defiance Machine Works,
DEFIANCE, OHIO.**COMPLETE OUTFITS
FURNISHED.**HUB, SPOKE, WHEEL, BENDING
Wagon and Carriage Machinery.**

Patent Plow-Handle Benders, Shapers, Cut-off Saw and Revolving Polishers, Hot-Form, Double and Single Bent Pole and Express Shaft Benders, Neck-Yoke, Singletree, Brush Handle Lathes and Finishing Machines. Estimates and Circulars given upon application.

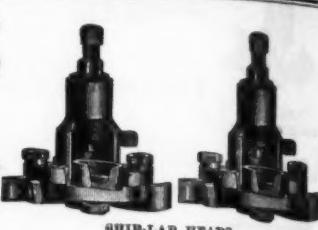


Patent Automatic Combined Spoke, Turning and Squaring Machine for common, carven patent or sharp-edged spoke turning; capacity 3,000 per day

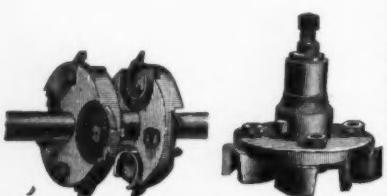
Wheel-Boxing Machine.

THE SHIMER MATCHER HEADS**The Cheapest! The Strongest! The Most Durable!**AND YET THE LIGHTEST AND EASIEST RUNNING MATCHER HEADS
IN THE WORLD. UPWARD OF 25,000 SOLD.

FLOORING MATCHER HEADS.

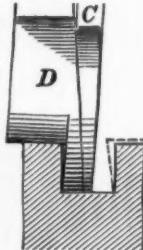


SHIP-LAP HEADS.



JOINTER HEAD.

Samuel J. Shimer,



This explains the division of cut and the easy working of the tool. They finish hard, cross-grained and knotty lumber neatly, showing clean cut edges, and often save their cost in one day's run.

We also make SHIP-LAP HEADS, JOINTER HEADS, DADO HEADS, SASH HEADS, DOOR HEADS, COPE HEADS, and Heads for any special work where a perfectly uniform pattern is required. Send for Descriptive Circular.

Milton, Penn.

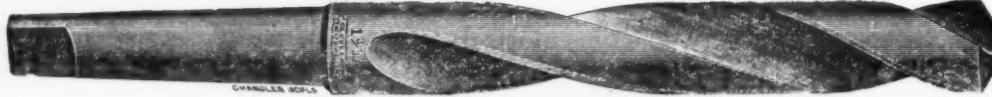


DOOR HEAD.

SASH HEAD.

Established 1874.

MAUFACTURERS OF
Taper Shank Drills,
Straight Shank Drills,
Blacksmith Drills,
Bitstock Drills,
Straight Fluted Drills,
Machine Bit Drills

Cleveland Twist Drill Co.

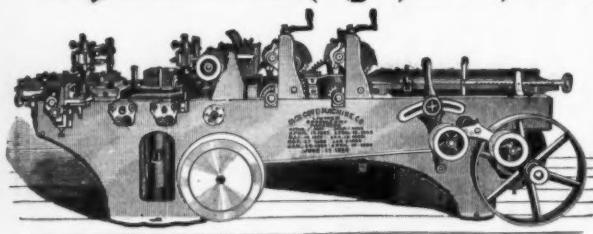
Send for Catalogue.

OFFICES—{ Cer. of Lake & Kirtland Sts., Cleveland, O. } write for Discounts.
MORTON, REED & CO., BALTIMORE.

MAUFACTURERS OF
Self-feeding Reamers,
Expanding Reamers,
Shell Reamers,
Stay-bolt Taps,
Taper Reams

GLEN COVE MACHINE COMPANY, Limited,

MANUFACTURERS OF

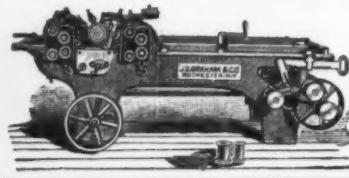
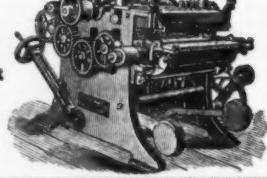
Improved Planing Mill Machinery.

No. 84.—10-inch Patented Fast Feed Moulding Machine.

SPECIALTIES: Fast-Feed Sizing, Planing and Matching, Flooring and Ceiling, Inside Moulding and Double Surfacing Machines; also the celebrated GLEN COVE DOUBLE DECKER and GLEN COVE SPECIAL.

J. S. GRAHAM & CO.
261 LYELL AVENUE, ROCHESTER, N. Y.

Manufacturers of Planers and Matchers, Surfers, Timber Planers, Resaw Machines, Gang Ripping Machines, Self-Feed Saw Tables, Moulder, Posy Planers, Etc.

SEND FOR
PRICES.**WM. E. HILL & CO.**

MANUFACTURERS OF

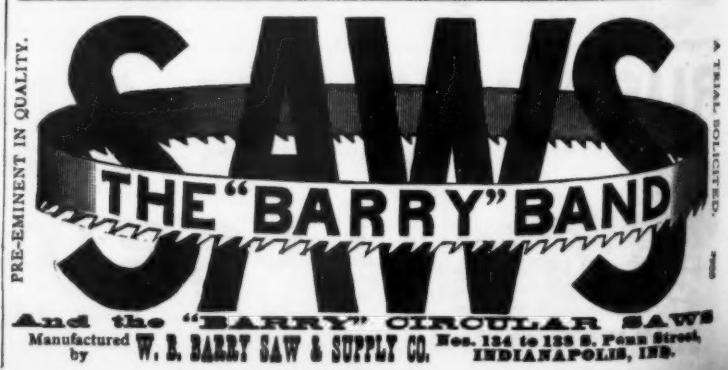
SPECIAL PATENT SAW and SHINGLE MILL

MACHINERY

KALAMAZOO, MICH.

Write for new
Illustrated Catalogue.

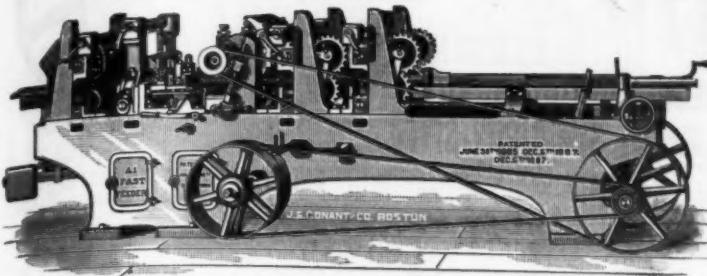
PRE-EMINENT IN QUALITY.



The bed is movable endways, and quickly adjusted to any thickness. The revolving bed carrying the sandpaper is easily swung across the surface, and the pressure is regulated at the will of the operator. For Circulars address THE WINSHIP MFG. CO., Racine, Wis.

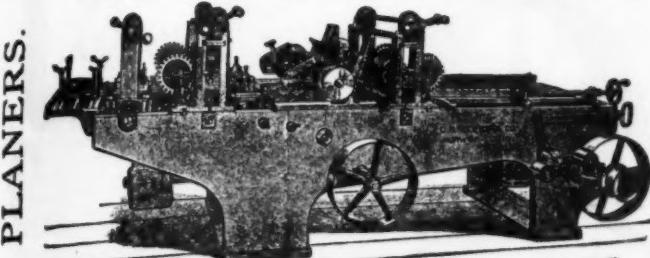
SAWS
THE "BARRY" BAND
And the "BARRY" CIRCULAR SAWS
Manufactured by W. B. BARRY SAW & SUPPLY CO., Nos. 124 to 128 S. Penn Street, INDIANAPOLIS, IND.

S. A. WOODS MACHINE CO.
Wood-Working Machinery,



Planing and Moulding Machines a Specialty.
 51 Liberty Street, NEW YORK. 172 High Street, BOSTON. 61 S. Canal Street, CHICAGO.
 WORKS: SOUTH BOSTON, MASS.

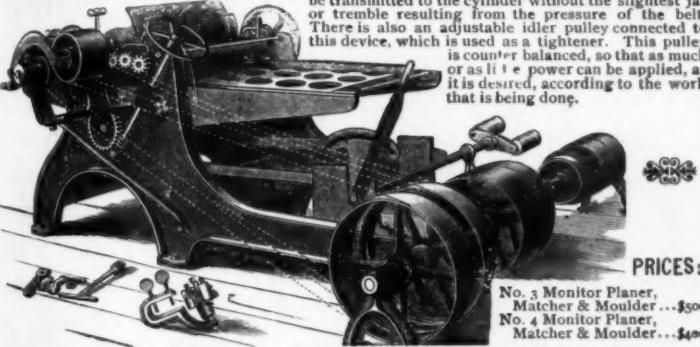
C. B. ROGERS & CO.
 MANUFACTURERS OF Improved Wood-Working Machinery.



MORTISERS, TENONERS, BAND AND SCROLL SAWS, &c.
 Office and Works, Norwich, Conn. Wareroom, 109 Liberty Street, N. Y.
 THOR. K. CAREY & BROS., AGENTS, BALTIMORE, MD.

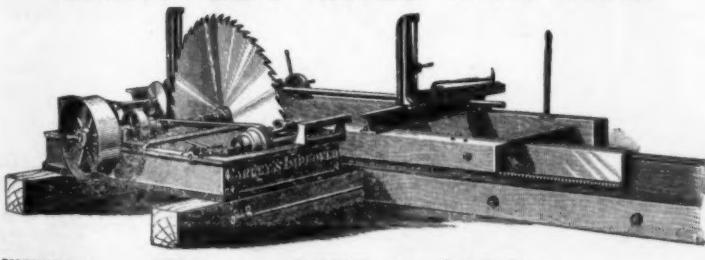
WOOD-WORKING MACHINERY.

This cut is a representation of my No. 3 and No. 4 Monitor Planer, Matcher and Moulder, showing the application of my new patent Cylinder Driving Device. This device consists of an extra shaft placed in two bearings outside the cutter head bearings, and having the end of this shaft connected with the end of the cylinder by means of a yielding coupling. In this way any amount of power can be transmitted to the cylinder without the slightest jar or tremble resulting from the pressure of the belt. There is also an adjustable idler pulley connected to this device, which is used as a tightener. This pulley is counter balanced, so that as much or as little power can be applied, as is desired, according to the work that is being done.



For further particulars and special cash discounts, address
JOSIAH ROSS, 1443 to 1459 Niagara St., Buffalo, N. Y.

CIRCULAR SAW MILL.
 CHEAPEST MILL FOR THE MONEY IN THE MARKET.



PORTABLE MILL. Prices, \$250 to \$800.

A. C. POWELL & SON, Syracuse, N.Y.

WESTERN FILES. WARRANTED SUPERIOR QUALITY
 WESTERN FILE CO. LIMITED
 BEAVER FALLS, PA.

CORDESMA, MEYER & CO.
 171 & 173 W. SECOND STREET, CINCINNATI, OHIO.



FINE GRADES OF LATENT
Wood-Working Machinery
 OF EVERY DESCRIPTION.

Planing Mills, Furniture and Chair
 Factories, Carriage, Wagon
 and Agricultural Works.

Write for our latest catalogue and price-
 list. Correspondence solicited.



TREVOR MFG. CO.

Successors to TREVOR & CO.

Lockport, N. Y.

MANUFACTURERS OF

Shingle, Heading
 AND

STAVE MACHINERY

HEADING SAWING MACHINES,
 HEADING TURNERS,
 HEADING JOINTERS,
 VENEER CUTTING MACHINES,
 STAVE EQUALIZERS,
 STAVE CUTTERS,
 SHINGLE JOINTERS,
 SHINGLE SAWING MACHINES,
 DRAG SAW MACHINES.

HANDLE MACHINERY.

Lathes for turning handles for Brooms, Mops, Forks, Hoes, Axes, Picks, Hammers, Coat Hooks, and for Ball-Bats, Pewty-Stocks, Pipe-Poles, Spokes, Etc.

If you want machinery for
 Staves, Heading, Shingles or
 Veneer Cutting, send for our
 catalogue "A." If you want
 Handle Machinery, send for
 catalogue "B."

Please say where you saw
 this advertisement.

[Improved Law's Patent Heading and
 Shingle Sawing Machine.]

PLANERS. **MOLDERS.**



Blowers. Fans. Heaters.

HOT BLAST

DRY KILNS

And Kindred Machinery.



FIRST IN THE FIELD, BUT LATEST IN DESIGN.
 Most Economical of Power. Fully Guaranteed.
 Users, Machinery Dealers and Architects
 should correspond with

HUYETT & SMITH MFG. CO.

(Heating and Ventilating Engineers.)

DETROIT, MICH.



The SALEM WIRE NAIL CO.

MANUFACTURERS

Wire Nails

Works: SALEM, O.; FINDLAY, O.

General Office: SALEM, OHIO.

BRANCH OFFICES:

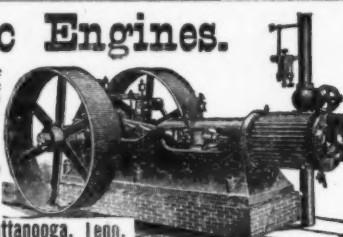
261 Broadway, New York. 415 Phenix Bldg., Chicago.
 123 Soulard Street, St. Louis. 4 Wiggins Street, Cincinnati.

Valley Automatic Engines.

Applicable to any and all uses requiring Close Regulation and Economical use of Steam. They are constructed throughout of selected material and finished in the best possible manner. Guaranteed to equal any of their class extant in Economy, Regulation, Durability and General Efficiency.

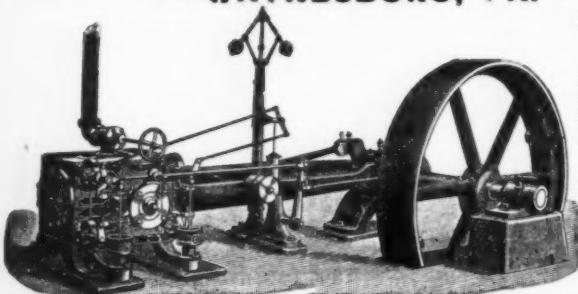
VALLEY IRON WORKS,
MANUFACTURERS,
WILLIAMSPORT, PENNA.

CASEY BOILER MFG. CO., Sales Agents, Chattanooga, Tenn.



ECLIPSE CORLISS ENGINES.

Frick Company, Engineers, Builders, WAYNESBORO, PA.



40 to 1,000 H. P.
Made.

Condensing, Non-Condensing & Compound.

Send for Corliss Circular.

Ice-Making and
Refrigerating
Machinery.

Send or Ice-Machine Circular.

Special Automatic Electric Light Engines, Steam Boilers, Traction and Portable Engines, Saw Mills. Send for our General Catalogue.

FOR THE LOWEST-PRICED FIRST-CLASS ENGINES & BOILERS

ADDRESS

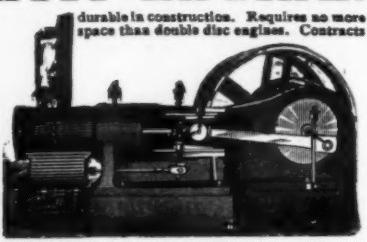
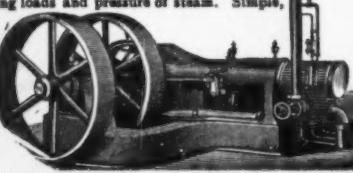
GEO. W. TIFFT, SONS & CO.
BUFFALO, N. Y.

5 to 500 H. P. Special Stock Sizes &
to 50 H. P., both Stationary and
Semi-Portable.

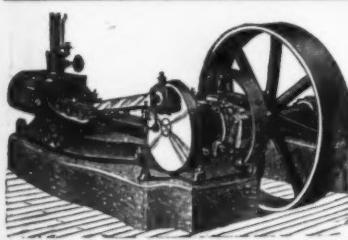
A few good Second-Hand Engines and Boilers are
for sale at an astonishingly low figure. Must be sold
to make room for sto Correspondence solicited.
Mention this paper.

BECK AUTOMATIC ENGINE.

For Electric Light, Flour, Cotton, Woolen and Rolling
Mill Service and all other purposes requiring power.
Economical in Steam Consumption.
Does not race. Speed constant under varying
loads and pressure of steam. Simple,



taken for complete steam plants, including boilers and all connections, masonry and erection. All work
guaranteed. Send for catalogue and full particulars. Also builders of Portable, Vertical and Stationary
Engines. Boilers of all styles, and Saw Mills. Address TAYLOR MFG. CO., Chambersburg, Pa.



Russell & Co.
MASSILLON, OHIO.
BUILDERS OF
Automatic Engines,
BOILERS, ETC.

Complete Power Plants Furnished.

SOUTHERN AGENCY:

RUSSELL & CO., 75 S. Forsyth St., Atlanta, Ga.

ESTABLISHED 1864.

INCORPORATED 1888.

Wm. A. HARRIS STEAM ENGINE CO.
(Successors to Wm. A. Harris,) PROVIDENCE, R. I.

Builders of HARRIS-CORLISS ENGINES,
FROM 20 TO 2,000 HORSE POWER.

These Engines are carefully built of best materials and in different forms, such as Non-Condensing, Condensing and Compound Condensing. Send for copy of ENGINEERS AND STEAM USERS' MANUAL, by J. W. Hill, M. E. \$1.25. Mention this paper and send for catalogue. WM. A. HARRIS, Pres't. & Treas. The D. A. TOMPKINS CO., CHARLOTTE, N. C., Southern Agents.

ALEX. K. RARIG & CO.

COLUMBUS, OHIO.
MANUFACTURERS OF
Blast Furnace Plants,
AUTOMATIC CUT-OFF ENGINES,
HOISTING ENGINES,
Boilers, Boiler Plate Punches,
ROLLS AND SHEARS,
Clay-Working Machinery,
Steam Sewer Pipe Presses.

Socket Pipe, Tile and Fire-Proof Dies, Wet and Dry Pans for Grinding and Tempering Clay for Sewer Pipe, Terra Cotta, Brick and Tile. We furnish complete outfits for Sewer Pipe and Brick Plants. Write for catalogue. Correspondence solicited. Mention this paper.



THE
RICE AUTOMATIC
GUARANTEED
ECONOMY.
REGULATION-DURABILITY.
SIMPLICITY-SELF-CONTAINED.

8 to 300 H. P.

PAIR & TANDEM COMPOUNDS.

THE JOHN T. NOYE MFG CO. BUFFALO, N.Y.

Fairbanks, Morse & Co., Western Representatives, Chicago, St. Louis, Kansas City, Omaha, Denver, St. Paul.

The Porter-Hamilton Engine.

FOR LARGE POWERS.

The Heaviest Engine in America.

THE HAMILTON BLOWING ENGINE

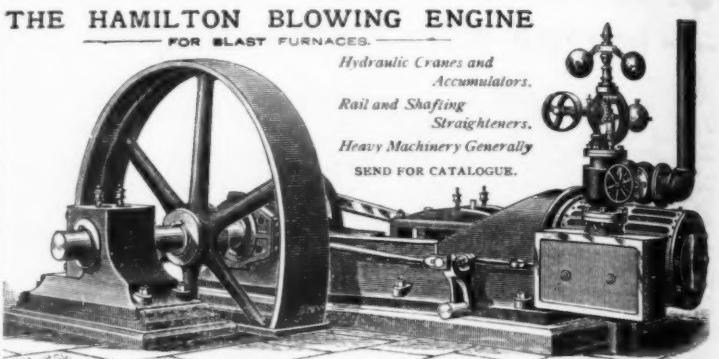
FOR BLAST FURNACES.

Hydraulic Cranes and
Accumulators.

Rail and Shafting
Straighteners.

Heavy Machinery Generally

SEND FOR CATALOGUE.

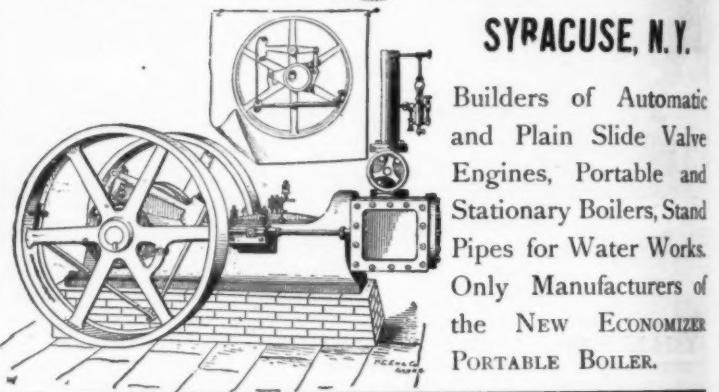


WILLIAM TOD & CO.

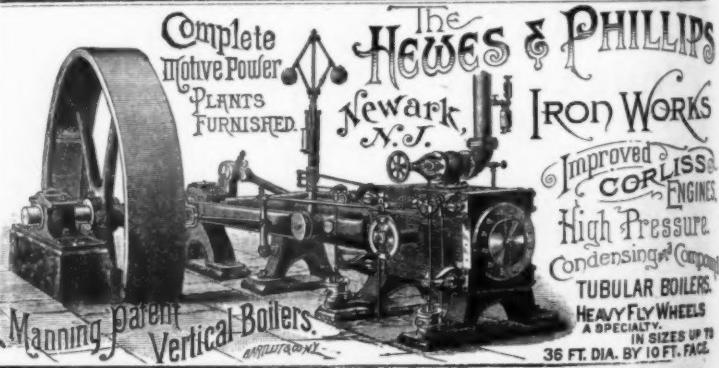
YOUNGSTOWN, OHIO.

Porter Manfg. Co., Limited.

SYRACUSE, N.Y.



Builders of Automatic
and Plain Slide Valve
Engines, Portable and
Stationary Boilers, Stand
Pipes for Water Works.
Only Manufacturers of
the NEW ECONOMIZER
PORTABLE BOILER.



The
Hewes & Phillips
Newark, N.J.
IRON WORKS

Improved
CORLISS
ENGINES.
High Pressure
Condensing & Compounding
TUBULAR BOILERS.
HEAVY FLY WHEELS
A SPECIALTY.

IN SIZES UP TO
36 FT. DIA. BY 10 FT. FACE.



SKINNER ENGINE CO., ERIE, PA.

OVER 3400 IN USE

Manufacturers of PORTABLE & STATIONARY

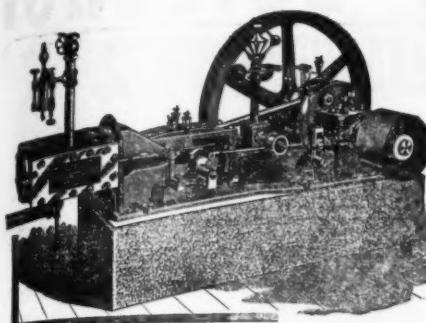
ENGINES & BOILERS

SEND FOR CATALOGUE.

MORTON, REED & CO., Agts., Baltimore, Md.

NEW YORK and NEW ENGLAND OFFICES.

C. B. VINCENT & CO., 15 Cortlandt St., N. Y.

336, 338, 340, 342
NORTH ST.**The WARFIELD MANUFACTURING CO.** BALTIMORE,
MD.

THE WARFIELD-PILLINGS AUTOMATIC ENGINE.

Class A.—The Warfield-Pillings Automatic Engine. A high-grade Engine, (for high or medium speed,) for electric light and other purposes.

Class B.—The Warfield Throttling Governor Engine—Horizontal and Vertical.

COMPLETE PLANTS FOR THE
Generation and Transmission
OF
STEAM POWER.

GENERAL MACHINE WORK.

Machinery Designed and Constructed for Special Purposes.

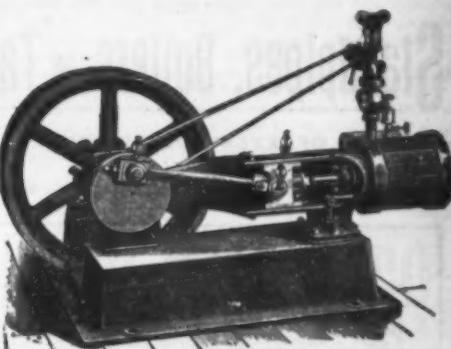
OUR MACHINERY IS CLASSED AND CATALOGUED AS FOLLOWS:

Class C.—Steam Boilers—Stationary Tubular, Upright Tubular.

Class D.—Shafting, Hangers, Pulleys, Couplings, &c.

Class E.—Fruit, Vegetable and Oyster Packers' Machinery—most

complete line on the market.



THROTTLING GOVERNOR ENGINE, HORIZONTAL.

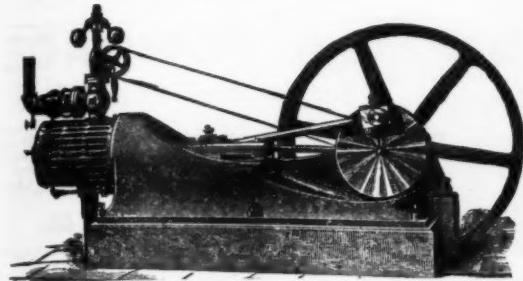
Class F.—Can-Making and Sheet-Metal Machinery.

Class G.—The Warfield-Pillings Patent Water Motor, Ceiling, Column and Exhaust Fans, complete Ventilating Apparatus, Patent Electric Motors.

Any of the above Catalogues mailed upon application.

TALBOTT & SONS, RICHMOND, VA.

MANUFACTURERS OF

Engines and Boilers,

BRANCH OFFICES:
MACON, GA.
CHARLOTTE, N. C.

SAW, CORN AND WHEAT MILLS,

ROPE FEED for SAW MILLS, TIMBER QUAGES, graduated by 1-16 of an inch. Shafting, Hangers and Pulleys,

COTTON-SEED OIL MILL MACHINERY,
MODERN COTTON GINNORIES.

ESTIMATES AND CONTRACTS MADE FOR COMPLETE OUTFITS,
Embracing the Latest and Best Improvement.

Portable GASOLINE Engines

For Threshing Machines, Hay Presses, Corn Shellers, Plow Drivers, Well Diggers, &c., our newest and latest Engine little wonder and a giant to work. Send for prices. Mention this paper.

Van Duzen Gas & Gasoline Engine Co.
CINCINNATI, OHIO.

OILLESS BEARINGS.

They will run for years without oil. Perfectly clean. No cutting or danger of fire from overheating. Send for New Circular of interest to users of Loose Pulleys.

North American Metaline Co., 37 Bleeker St., N.Y. City.

"THE KRIEBEL" NEW MODEL STEAM ENGINES.
Single and Double Cylinder STATIONARY, SEMI-PORABLE, MARINE and HOISTING ENGINES.
STEEL BOILERS of all styles and sizes. AUTO-MATIC and HORIZONTAL THROTTLING ENGINES. GOVERNORS, INJECTORS, STEAM PUMPS, ETC.

Send for Catalogue, stating what you wish prices on.
RICE & WHITACRE MFG. CO.
47 & 49 N. Canal Street, CHICAGO, ILL.

CLEVELAND AND HARDWICK-ERIE ENGINE WORKS.
MANUFACTURERS OF STEAM ENGINES and BOILERS.
ERIE, PENNA.

Strong, Well Built, Serviceable **STEAM ENGINES**
12 TO 80 Horse Power.
Adapted to Heavy, Continuous Work. Every Engine tested under full load. For descriptive circulars, address
Chandler & Taylor, Indianapolis, Ind.

THE JEWELL AUTOMATIC Balance Valve, Self-Contained ENGINE.
For any and all uses where economy in steam and close regulation is required.
Also a full line of Vertical Engines and Boilers, 2 to 10 H.P.
C. H. DUTTON & CO.
KALAMAZOO, MICH.

SHERWOOD MFG. CO.
THE CELEBRATED UNION INJECTOR. Only One Lever to Operate. The Eagle Ejector. The Best Jet Pump Made.
Felthousen's Cylinder Oil Pumps; Improved Gauge Cocks; Adjustable Spring Flue Scraper; Improved Ratchet Drills; Combination Pipe and Nut Wrench; Compression Grease Cups.
Buffalo Glass Oil Cups & Lubricators. Pop Valves; Steam and Water Gauges; Single Bell and Chime Steam Whistles; Piston and Valve Rod Packing; Supplies all kinds for Engines and Boilers.
SHERWOOD MFG. CO.
Bole Manufacturers, BUFFALO, N.Y.

Acme Automatic Engine,
With BRYANT'S Patent Safety Boiler.
Sizes 1, 2 and 4 H. P. Fuel, Kerosene (Coal) Oil, 110° to 180° fire test. No dust, ashes, or smoke. No Skilled Engineer required. "Brake" Tests show that 3M gals. fuel will deliver a full H. P. on belt for 10 hours, in the case of our 1 H. P. Engine and Boiler.

Rochester Machine Tool Works, BUILDERS, ROCHESTER, N. Y.
SEND FOR CATALOGUE.

The Ideal Compound and Single Expansion ENGINES.
Simplicity, Perfection, Unequalled Regulation, Self-Oiling.
A. L. IDE & SON,
MANUFACTURERS,
SPRINGFIELD, ILL.
Offices—Chicago, 89 Lake St.; St Louis 313 Olive St.; Kansas City 1221 Union St.

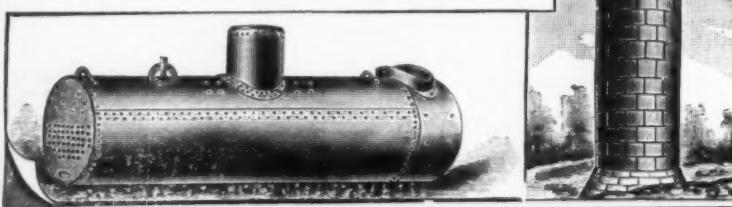
St. Louis Iron & Machine Works,
Capital Stock, \$200,000 Paid Up.
ST. LOUIS, MO.
Established 1854. MANUFACTURERS OF Incorporated 1875.
Corliss, Steamboat and Slide Valve Engines,
COTTON COMPRESSES, PLATE GLASS MACHINERY,
HOISTING TRAVELERS,
Mining Machinery, Dry Clay Brick Machinery, &c.

Without any question the Greatest
FUEL SAVER of any Regulator.
Hallock Damper Regulator.
UPWARDS OF 2,000 NOW IN USE.
Keeps a steady pressure of steam. Saves fuel and gives regularity of power. Simple in construction. It does not get out of order. Uses no water. Requires no tank. Will outlive any boiler.
Every machine warranted.
AUSTIN ADAMS, Sole Agent, 40 Day Street, New York.
Registers can be taken apart, cleaned and put together in five minutes.

THE J. C. McNEIL CO.
BUILDERS OF
Standpipes, Boilers and Tanks,
OF EVERY DESCRIPTION.

Write for Prices.

AKRON, OHIO.

**ALUMINUM METAL STEAM BOILERS.**

The time is coming when this will be a familiar heading to a steam boiler "add." But at present there is nothing better than a **STEAM BOILER** well made of **MILD STEEL**. Do not forget that we can make you a boiler with **ECLIPSE MANHOLES**, bottom in one plate, in fact, a modern one; so do not think that we are not worth writing to about it. Send us your specifications.

Respectfully,

FULTON STEAM BOILER WORKS,
RICHMOND, INDIANA.



Awarded the Grand Prize at late Paris Exposition.

ARMSTRONG BROS.
MANUFACTURERS OF
Engines and Boilers
ALL SIZES AND KINDS.
Output Last Year 1473 Engines
and Boilers.
Have large stock New Standard Boilers,
and also large stock Second-hand
Engines and Boilers, all sizes and
kinds. Will dispose of at a bar-
gain. For Circulars address
ARMSTRONG BROS., SPRINGFIELD, OHIO.

STATIONARY MARINE BOILERS
140, 142 and 144 FRONT STREET.

Eagle Boiler Works
DAN SHEA & CO., Prop.
Boiler Makers and Sheet-Iron Workers.
REPAIRING PROMPTLY DONE.
MEMPHIS, TENN.

The Tudor Boiler Manufacturing Co.
Steam Boiler and Tank Makers

OFFICE, 242 E. Pearl St. (opp. Pittsb'g, Cincinnati & St. Louis Ry.), CINCINNATI, O.
SECOND-HAND BOILERS ALWAYS ON HAND.

STEAM BOILERS,

HOISTING AND MINING ENGINES.

EDWARD KENDALL & SONS,
MANUFACTURERS,
CAMBRIDGEPORT, MASS.

Miles' Patent Downward Tubular Boiler,
Locomotive Tubular Boilers,
Horizontal Tubular Boilers,
Upright Boilers,
Miles' Patent Oil Stills, Agitators,
Miles' Patent Tubular Water Heater,
Drying Pans, Fish Stills,
Miles' Patent Pulp Stills,
Ships' Water Tanks,
Rotary Dryers, Furnaces, Sand Heaters,
Galvanizing Kettles,
Special Machinery for Dishing Heads
of Large Diameter,
Asphalt Paving Tools,
Plans of Miles' Patent Boiler and Still
Settings, &c.

GEORGE MILES,
Steam Boilers
AND
* Plate Iron Work *
OF ALL KINDS.
SOUTH BOSTON, MASS.

JARVIS Patent FURNACE

For Setting Steam Boilers.

Economy of Fuel, with increased capacity of Steam Power. Like the Siemens Process of Making Steel, it utilizes the waste gasses with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &c. Send for Circulars.

JARVIS ENGINEERING CO.

J. N. PRATT, Treas. and Gen'l Manager.
61 Oliver Street, BOSTON, MASS.

SOUTHERN REFERENCES:

Eagle & Phenix Mfg. Company, Columbus, Ga.
Anniston Mfg. Co., Anniston, Al.
P. P. King Mfg. Co., Augusta, Ga.
Rose Mining Co., Charleston, S. C.
Maryland Pavement Co., Baltimore, Md.
Brush Electric Light Co., Baltimore, Md.
Ettrick, Matson and Battersea Mfg. Co's.,
Petersburg, Va.
Rasin Fertilizing Co., Baltimore, Md.
Tanner & Delaney Engine Co., Richmond Va.
Ashley Mills, Augusta, Ga.

Graniteville Mfg. Co., Graniteville, S. C.
Charleston Bagging Co., Charleston, S. C.
P. H. Mayo & Bros., Richmond, Va.
Phosphate Mining Co., Beaufort, S. C.
Brush Swan Electric Light Co., Norfolk, Va.
Columbus Ice & Refrigerator Co., Columbus, Ga.
Lenoir Manufacturing Co., Lenoir, East Tennessee.
Vanceuse Mill, Graniteville, S. C.
Charleston Electric Light Co., Charleston, S. C.

Wm. Baragwanath & Son
FEED WATER HEATING
PURIFYING APPARATUS

48·50&52
W. Division St.
~CHICAGO~
·ILL...

HEINE SAFETY BOILER CO.

PATENT

Safety Water-Tube Steam Boilers.

ECONOMY IN FUEL AND SPACE.
FREEDOM FROM SCALING.
POSITIVE CIRCULATION.
Equally adapted for Power or Heating Purposes,
for Clear or Muddy Water, and any kind
of Fuel. Send for Circular J to

706, 707 and 708
Bank of Commerce Building, ST. LOUIS, MO.

OR TO OUR AGENTS:

Ridson Iron Works, San Francisco, Cal.
Stearns, Roger & Co., 3 Duff Block, Denver, Col.
Jas. K. Rugg & Co., 107 W. Second St., Cincinnati, O.
T. C. Gooch, 445 W. Main St., Louisville, Ky.

Van Zile, McCormack & Co., Albany, N. Y.
Jas. H. Harris, 82 Madison Street, Chicago, Ill.
L. Metesser, 34 St. Charles St., New Orleans, La.
R. M. Huston, 45 Broadway, New York.
English, Morse & Co., Kansas City, Mo.
Seeger & Guernsey Co., City of Mexico, Mex.

THE KENNEDY INJECTOR

Most Durable, Most Economical, Simplest and Best on the Market.

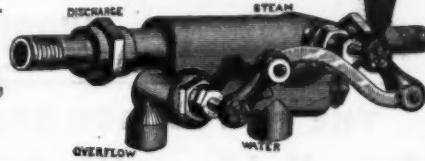
Warranted to Lift Water 25 feet.

MANUFACTURED BY

The Forest City Brass Works,

90 to 96 Merlin St. 2 to 38 Leonard St.

CLEVELAND, O.



H. V. PARTELOW & CO.



Manufacturers of BOATS, CANOES and STEAM LAUNCHES, 424-428 ATLANTIC AVENUE, BOSTON, MASS. Send two two-cent stamps for catalogue.

CHICKASAW IRON WORKS,

JOHN E. RANDLE & CO., Prop's,
MEMPHIS, TENN.

MANUFACTURERS OF

Architectural Iron Work,

IRON AND BRASS CASTINGS.

LOCOMOTIVES for Saw Mill Tramways, Log and Lumber Trucks.

WROUGHT IRON WORK.

ATLAS ENGINES AND BOILERS.

Saw Mills, Cotton Presses, Shafting, Couplings, Pulleys, &c.

MACHINERY SUPPLIES AND REPAIRS.



William B. Mollock & Co.



Youngstown, Ohio.

BLAST FURNACES,
ROLLING MILLS,
STEEL WORKS,
MINES, ETC.,
ETC.

THE CURTIS

STEAM PRESSURE REGULATOR



Has been in general use now about seven years, and has from the first taken the lead of all others, and stands unrivaled to-day for its reliability and durability. It is used wherever the pressure of steam or any other fluid NEEDS TO BE REDUCED AND CONTROLLED on Steam Heating and Drying, Electric Light Plants, Marine Engines, Railroad Car Heating Steam, Pumps, Natural Gas, Air and Water, in the United States, and in the leading countries of Europe, and is sold and endorsed by the trade universally.

The Curtis Regulator Co., 180 Beverly Street, Boston, Mass.

GENERAL AGENCIES,
NEW YORK, 109 Liberty St.
PHILADELPHIA, 2035 N. Front St.
MINNEAPOLIS, 210 S. Third St.

LUDLOW VALVE MFG. CO.

Office and Works: 938 to 954 River St., and 67 to 83 Wall Ave., Troy, N.Y.
VALVES

Double and Single Gate, 36 inch to 48
inch.; outside and inside Screws,
Indicators, etc., for Gas,
Water, Steam, Oil.

SEND FOR CIRCULAR.



Also Fire Hydrants, Yard and Wash Hydrants, Check and Font Valves.

The LUNKENHEIMER BRASS MFG. CO.

CINCINNATI, OHIO, U. S. A.

This Cut Changes Weekly.

Send for July, 1890, Catalogue, containing complete description of

Heavy Regrinding GLOBE VALVES,
Check Valves, Gate Valves,
Lever Throttle Valves,
Pop Safety Valves, Improved
Glass Oil Cups, Automatic
Sight Feed Lubricators,
Grease Cups, &c.



For Sale by All Leading Jobbers throughout the United States.

MACHINERY! MACHINERY!

OVER 600 MACHINES
DESCRIBED
AND SHOWN.

LOWEST
RATES OF
FREIGHT
OBTAINED

In endless variety, fully described, with prices annexed, in our catalogues as before specified.
Catalogue No. 44.—Machine Shop and Blacksmith Equipment. 80 pages, each 14 in. x 11 in.

Catalogue No. 45.—Engines, Boilers, Pumps and Steam Fixtures. 70 pages, each 14 in. x 11 in.

Catalogue No. 46.—Wood-Working and Grist Mill Machinery, Water Wheels and Mill Supplies. 126 pages, each 14 in. x 11 in.

Send us stamps for catalogue, stating exactly what class of machinery you require, and in what paper you saw the advertisement. W. E. DREW, Agent.

S. C. FORSAITH MACHINE CO. Machinists and General Machine Dealers Manchester, N.H.



Established 1872.

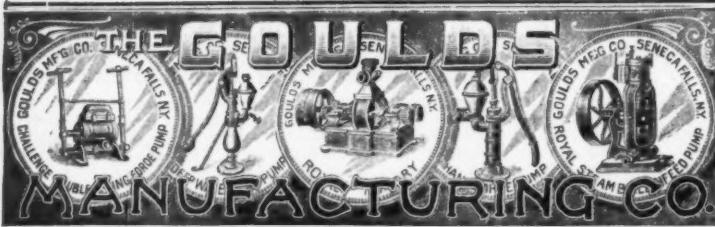
M. L. EDWARDS,
MFG. CO.

SALEM, OHIO.

Makers of
Blacksmith's and
Carriage Maker's Tools,
Butcher's Supplies, &c.CATALOGUE
FREE.

Bitofuge.
is the best boiler compound.

LITO FUGE MANUF'G CO. 62 JOHN ST. NEW-YORK.



Send for new No. 14 catalogue 13-23 Oneida Street, Seneca Falls, N. Y., and 6 Barclay St., New York. GENERAL AGENTS: Goulds & Caldwell Co., Chicago, Ill.; N. O. Nelson Mfg. Co., St. Louis, Mo.



JULIAN KENNEDY,

Consulting and Contracting Engineer,

HAMILTON BUILDING, PITTSBURGH, PA.

Blast Furnaces, Bessemer and Open Hearth Steel Works, Rolling Mills, Steam and Hydraulic Machinery, &c.

BRANCH OFFICE OF THE LATROBE STEEL WORKS.



WALKER & ELLIOTT,

Manufacturers

Fertilizer MILL
MACHINERY,

CORRESPONDENCE SOLICITED.

Automatic Mixers, Bone Mills, Breakers, Buhr Mills, Roller Machines, Pulverizers, Rolling and Shaking Screens, Elevators, Pulleys, Etc.

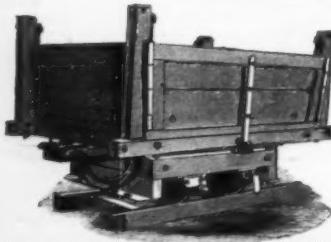
WILMINGTON, DEL.

DREDGES & SHOVELS



The Corey Car & Mfg. Co.

Manufacturers of Every Description of



Dumping and Mining Cars

IN WOOD, IRON AND STEEL.

PORTABLE TRACK and SWITCHES,

301 & 303 Phenix Building,

CHICAGO, ILL.

WEBSTER MFG. CO.,

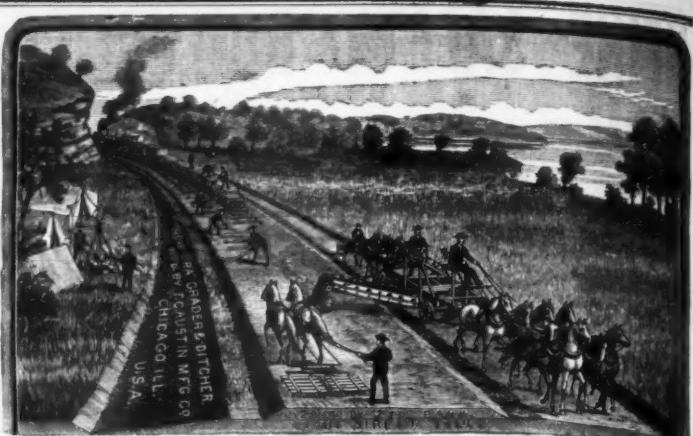
Successors to WEBSTER & COMSTOCK MFG. CO.

MANUFACTURERS OF
MACDONALD FRICTION CLUTCHES,
Shafting, Pulleys, Etc.



New improved Conveyor Coupling, so arranged that by taking out bolt any desired section may be removed.

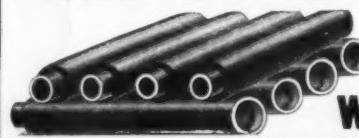
MANUFACTURERS' RECORD.



New Era Grader, Ditcher and Railroad Builder.

In building railroads makes cuts or fills embankments for 2 cents per cubic yard, moving 1,000 to 1,500 cubic yards in 10 hours with six teams and three men. Loads 600 to 800 wagons in 1½ yards in same time at a cost of 2½ cents each. Builds country roads at the rate of one mile in three days. We also make the Austin-Reversible Road Machine, Buck Scraper, Wheel and Drag Scrapers, Contractors' Plows, and Street Sweepers. Send for catalogue.

F. C. AUSTIN MFG. CO., Chicago, Ill.



WYCKOFF PIPE CO.
WILLIAMSPORT, PA.

Manufacturers of

WOODEN WATER PIPE.

We make the best in the market and at prices that defy competition. Write us for catalogue and prices.

THE PITTSBURGH BRIDGE COMPANY, Iron Bridges, Viaducts and Buildings

R. MERYDITH, Agent at Chattanooga, Tenn.

POTOMAC BRIDGE WORKS,

FREDERICK CITY, MD.

BRIDGE ENGINEER and CONTRACTOR.

Iron and Steel Bridges, Roofs, Buildings, Masonry and Pile Foundations. Contracts taken for Substructure and Superstructure Entire.

LEWIS J. MILLER,
Philadelphia, Pa.

WILL W. BIERCE,
Memphis, Tenn.

MILLER & BIERCE, Engineers and Contractors



Lewis Miller's Improved Steam and Hydraulic Cotton Compress

(Lewis Miller's and John F. Taylor's Patents.)

The most powerful, economical, and the fastest working Compress built. The only Compress in the world that will load cars and vessels to their full tonnage.

Also Agents and Manufacturers of Steam Engines, Water Engines, Pump, Boilers, and Heavy Machinery in General.

OFFICES:

PHILADELPHIA, PA., ROOM 707, TIGUE & RICHARD BLDG.; MEMPHIS, TENN., ROOM 2A,
BROAD & CHESTNUT STS.

Office and Salesroom, 195 S. Canal St.
Works, 1075-1096 West 15th St.

Chicago, Ill.

FOUNDERS AND GENERAL MACHINISTS.

DEALERS IN
COTTON, RUBBER and LEATHER
BELTING.



"HERCULES" Steel Scoop.



PATENTED APR. 17-1883.

SPIRAL STEEL CONVEYOR.

Railroad Construction

Arkansas City, Ark.—Railroad.—The survey of the Arkansas & Gulf Railroad has been completed from Arkansas City via Lake Village to the Louisiana State line. William Bonner is secretary of the company.

Atlanta, Ga.—Railroad.—A bill has been introduced in the legislature chartering the North Georgia Railroad Co.

Atalla, Ala.—Railroad—Allison, Shafer & Co. have contract to build the Tennessee & Coosa extension to the Nashville, Chattanooga & St. Louis Railroad, as lately stated under Guntersville. The work at the Tennessee river is heavy, and a bridge with a draw span is to be built across that river. The contractors will be ready to start the work January 1, and it is to be completed October 31.

Blackville, S. C.—Railroad.—Moore & Springs, of Yorkville, are said to have received contract for grading the South Bound Railroad from near Blackville to Columbia, a distance of 55 miles, the work to be completed August 1, 1891.

Brunswick, Md.—Railroad.—The building of a railroad from Brunswick to Middletown by the Baltimore & Ohio Railroad Co. (office, Baltimore) is rumored as contemplated.

Charleston, S. C.—Railroad.—A bill has been introduced in the legislature incorporating the Charleston & Sea Island Railroad.

Corinth, Miss.—Railroad.—The Southern Construction Co. has contract for building the Greenville, Nashville & Chattanooga Railroad, referred to last week, from Corinth to the Tennessee river, 20 miles.

Corpus Christi, Texas—Street Railway.—The Corpus Christi City Railway Co., mentioned last week, has been chartered by E. E. Furman, T. B. Southgate and others with a capital stock of \$100,000.

Corsicana, Texas—Electrical Railroad.—The construction of an electrical railroad is being discussed. B. G. McKee can probably give information.

Danville, Va.—Railroad.—Construction of the Danville & East Tennessee Railroad is to commence January 15. Surveying is in progress, and three additional corps will be put in the field at once. T. W. M. Draper, of Norfolk, is general manager and chief engineer.

Florence, Ala.—Railroad.—It is stated that the narrow-gauge railroad of the Mussel Shoals Canal will be reaided with steel rails and the roadbed improved and ballasted. The line is 12 miles long, and the estimated cost of the improvements is \$100,000. Lieutenant George W. Goethals can give particulars.

Gainesville, Texas—Railroads.—George Y. Bird, H. B. Fletcher, C. N. Stevens, W. S. Hurley, W. L. Pierce, D. L. Painter and others are the organizers of the two railroad companies referred to last week. The Gainesville, Oklahoma & Gulf Railroad Co., to build the line northwesterly from Gainesville, is the title of one, and the other is the Gainesville, McAllister & St. Louis Railway Co., to build the road northeasterly from Gainesville to McAllister, I. T., connecting with the Missouri, Kansas & Texas Railroad.

Galveston, Texas—Railroad.—The Omaha, Kansas Central & Galveston Railroad Co. is reported as chartered at Topeka, Kans., by D. M. Bell, Alonzo Jones, C. M. Rawlins, of Lyons, Kans., and others to build a railroad from Omaha to Galveston. The capital stock is \$18,000,000.

Granger, Texas—Railroad.—The Granger, Georgetown & Austin Railroad Co. has been organized with Emsy Taylor, of Georgetown, president, and J. M. Denson, vice-president, to build the railroad from Granger via Georgetown to Austin, reported last week (under Georgetown). The preliminary survey is said to have been commenced by a corps of engineers under John O'Neill, of Ballinger.

Greensboro, N. C.—Cable or Electrical Railroad.—The North Carolina Steel & Iron Co. contemplates constructing either a cable or an electrical railroad.*

Greenwood, S. C.—Railroad.—Application is to be made to the legislature for a charter for the Greenwood, Edgefield & Atlantic Railway Co. to construct a railroad from Greenwood to some point on the coast, and a line northerly from Greenwood to Greenville, or such other point as may be decided upon.

Giffin, Ga.—Street Railway.—The Middle Georgia Improvement Co. is reported as to build a street railway.

Ironton (P. O. Clifton Forge), Va.—Railroad.—The Ironton Mining & Improvement Co. intends, in connection with the Chesapeake & Ohio Railway Co. and the Clifton Forge Land Co., to build a railroad several miles long.

Kingsport, Tenn.—Railroad.—It is stated that surveying will be shortly commenced at Kingsport for the projected railroad from Paint Rock, N. C., via Greenville and Kingsport to Big Stone Gap, Va.

Lakeland, Fla.—Tram-road.—The Lakeland Electric Light Co. is reported as to build a tram-road.

Lodi, Texas—Railroad.—Dunn, Wurtzbaugh & Rand are said to contemplate building a railroad.

Marshall, Texas—Railroad.—A statement is made that work will be commenced January 1 on the Sabine Pass Railroad, to extend southerly from Marshall.

Middleton, Md.—Railroad.—A stock company will probably be organized to build a railroad from Middlebury to Rocky Ridge, a distance of about 18 miles, and a branch road from Rocky Ridge to Emmitsburg. C. E. Niemeyer can give particulars.

Montgomery, Ala.—Railroad.—A bill has been introduced in the legislature incorporating the Montgomery, Hayneville & Camden Railway Co. with W. F. Vandiver, J. P. Street, Sol. D. Bloch and others as corporators. The company proposes building a railroad from Montgomery via Hayneville to Camden, and is to have a capital stock of \$500,000.

Montgomery, Ala.—Railroad.—A bill has been introduced in the legislature to incorporate the Alabama, Florida & Mississippi Railroad Co.

Nashville, Tenn.—Electrical Railroad.—The Maplewood Suburban Home Co., G. W. Ehle, manager, will, it is stated, shortly let contract for the building of an electrical railroad.

Pine Bluff, Ark.—Street Railways.—The Jones Line and the Citizens' Line of street railways, mentioned in last issue, have been consolidated and a company organized with T. S. James, president, and Wiley Jones, general manager, to operate them. The lines will, it is stated, be extended and improved.

Quitman, Ga.—Railroads.—The Columbia Investment & Construction Co., to be organized by J. G. McCall and others, proposes building railroads.

Raleigh, N. C.—Electrical Railroad.—The Raleigh Street Railway will be changed to an electrical railroad, as stated last week.

Richardson, S. C.—Railroad.—The Manchester & Augusta Railroad Co. authorized at a recent meeting of stockholders the board of directors to build the road from end of track to Augusta, Ga., as soon as practicable. This is the railroad to Augusta, referred to last week (under Sumter). H. Walters, of Wilmington, N. C., is vice-president of the company.

Richmond, Va.—Electrical Railroad.—J. W. Laube, M. B. Leonard and others have petitioned the city council for a franchise to construct a storage battery electrical railroad.

Richmond, Va.—Street Railway.—The Northside Railway Co., organized by Y. V. Randolph and others, has applied to the city council for a franchise to build a street railway.

Troy, Ala.—Railroad.—The stockholders of the Mobile & Girard Railroad have ratified the action of the board of directors to issue bonds at the rate of \$12,750 per mile for the extension of the road from Troy to Pollard or Brewton, building of a 10-mile branch to Pensacola, Fla., and the construction of a line to Mobile in the event of the failure to make satisfactory traffic arrangements with the Louisville & Nashville Railroad. The issue is to not exceed \$4,000,000, \$1,080,000 of which are for to take up the old bonds of the company.

The State of Virginia."

At the banquet given on Thanksgiving Day to celebrate the opening of the Hotel Brandon at Basic City, the response to the toast "The State of Virginia" was very appropriately assigned to Mr. Thomas P. Grasty, of the MANUFACTURERS' RECORD staff, than whom there probably does not live a more patriotic son of the "Old Dominion." The report of his very characteristic response as given in the Basic City Advance is reproduced herewith:

"God bless Virginia" was the prayer of our fathers, and God is blessing Virginia. Were omnipotence to vouchsafe to me the fulfillment of any wish that I might make to-night, that wish should be that I might call back from heaven the spirit of my father that he might see such materialization of his prayers as are presented in this land, which than any portion of this sub-lunar sphere is nearest to heaven.

The curse of Ireland has been nonresidentism. Nevada, a region rich in mineral, has become 'a rotten borough,' because her millionaires have lived away; but Virginia's millionaires will live in Virginia, and the millionaires which the resources of Virginia will create during the next ten years will exceed those made in any equal area since the world began to be developed. For there is nowhere between Japan and Italy so lovely a land as ours, nor one on the globe where such stalwart, strong, brave men, and women so gloriously fair

and divinely true, are brought so near the image of the Creator.

It is my opinion that the largest immigration ever witnessed in America will flow in a great flood-tide down this splendid valley. It is my opinion that there will be twenty prosperous towns in this great rich county of Augusta alone. I have stated in the public prints that more than a million would be added to the population of this, the valley of the Shenandoah, by the time the next census is taken, and I now reiterate that prediction.

The Anglo-Saxon must have adventure. In Allan Quartermain, 'the Anglo-Saxon adventurer' is taken from the list of unworthies and crowned with a hero's laurels. That single page was enough to have made Rider Haggard famous as the eight short stanzas in 'The Burial of Sir John Moore' made immortally famous the name of Wolfe. The man who is content to follow a beaten path is no man at all. He is a mere thing, an automaton like the Japanese who follows his father's calling even though that father worked like a horse in the shales of a gig or pulled a wooden plow.

The most active and successful of American adventurers (in the higher sense of that much abused word) has been the Virginian. I have found him in places of trust and honor in the far Northwest. I have found him rich and prosperous on the Pacific slope. He is alike a power in Gotham and a king in the Cow-boy State. In our climate, in our blood, in our water, in the very victuals we eat when we were little, there is something that makes endeavor successful; something that enables us to laugh at defeat and get up and try again; something that makes the word 'resurgent' a fit motto all along the line; something that makes me believe that had Napoleon Bonaparte been born and bred in this magnificent Commonwealth he would never have died in exile, but on the throne of an empire whose map would have been the map of Europe, from Gibraltar to Siberia.

We talk much about Northern nerve and Yankee ingenuity. Flinging a Virginian into the battle of life, and he will 'get there,' even in fierce rivalry, with the cuteness of the Yankee and the alleged irresistibility of the best specimens of New York or Ohio. He is a man of infinite resource. To his courage there is no end so long as a drop of blood still pulses in his veins.

And yet he never knows what he is capable of till he is thrown into the whirlpool and must need sink or swim. He never sinks—he is not here for that purpose. No man can tell what there is in him—he doesn't know himself—till the time that tries his soul arrives.

While this is the rule, there are pitiable exceptions. Once in awhile I meet a Virginian who reminds me of Judas Iscariot. This fellow insists on saying Virginia's progress is only 'a boom' which will soon be pricked and then will shrivel up. Were this a monarchy and its Czar, I should without a question have all such traitors shot upon the spot.

Let us be thankful, however, that traitors in Virginia were scarce from 1776 to 1783, and from 1861 to 1865, and still, thank God, few and far between in this day of Virginia's rehabilitation. Scarce as they are, they would be scarcer still if Virginians should place on traitors to-day the same ineffaceable brand of condemnation which was placed on traitors when the flower of the land was gathered in 'battle's magnificently stern array.' The cause in which we are enlisted now is a nobler one than ever led to carnage. Its success means happy homes, useful lives, ruddy children, and the perpetuation of the finest system of civilization that the world to-day contains.

Millions of outsiders—and we cordially invite them—may come to Virginia, but those ineradicable traditions which form

part and parcel of our 'lex non scripta'—namely, our respect for real integrity, our recognition of genuine ability, our belief in the Christian religion, our reverence for true womanhood—will permeate and leaven all new comers to the land whose motto is 'Sic Semper Tyrannis.'

The President's Message.

In compliance with established usage, President Harrison sent to Congress last Monday a review of the condition of the nation, with sundry suggestions and recommendations. As a whole it is a partisan though calm presentation of our country's affairs.

Thoughtful men generally will concede that the President is right in claiming that judgment should be suspended as to the tariff and the silver laws passed at the last session until they have been in operation for a sufficient length of time to enable the country to judge correctly concerning them. The President's cordial indorsement of reciprocity, and of the bills pending in Congress for the revival of American commerce on the high seas, are accompanied by irrefutable arguments in their favor. As there is not and cannot be any party contention over these measures, it is to be hoped that Congress, mindful of the fixed limit of three months within which its work must be done, will waste no time in passing these laws, that the country may speedily begin to enjoy their benefits.

The serious recommendation that the "force bill" should be taken up and passed is a grave mistake. At the recent elections the people gave their verdict against this obnoxious and totally uncalled-for measure with a unanimity that ought to have satisfied the President and all who have heretofore favored the passage of the Lodge bill, that the country did not approve it and would not consent to it. The President's arguments in its favor are so strained and so inapt as to show that he does not understand the real animus of the bill or the intentions of those who are its super-zealous supporters.

Congress must decide for itself, among all the matters referred to in the Message, which are of supreme importance, and give attention to them to the exclusion of all others. First, of course, are the appropriation bills, for without their passage the wheels of government would be blocked, the improvements of our harbors and waterways would be suspended and other great public works would be brought to a standstill, to the great detriment of the country. Next to these in importance are the shipping bills, for the passage of which there is a national demand and an imperative necessity. Let Congress waste no time on the "force bill," against which a popular protest has been made without parallel in our political history, and devote its time and energies to the perfection and passage of the appropriation and shipping bills, and then adjourn.

Southern Financial News.

NEW BANKS.

Abbeville, S. C.—A bill has been introduced in the legislature to incorporate the Abbeville Farmers' Loan & Trust Co.

Atlanta, Ga.—A bill has been introduced in the legislature to incorporate the Atlanta Savings Bank.

Bartow, Fla.—The Polk County Bank will be reorganized as a State bank with a capital stock of \$25,000.

Carrollton, Ga.—Charter has been applied for for the organization of a bank with a capital stock of \$100,000. J. T. Bradley can give information.

Columbia, S. C.—The State Farmers' Alliance is reported as to establish a bank in Columbia with a capital stock of \$100,000.

Columbia, Tenn.—The Williamson County Banking & Trust Co. has increased its capital stock to \$100,000.

Covington, Va.—The Baltimore Banking & Building Co., referred to elsewhere in this issue, is authorized to conduct a banking business.

Eatonon, Ga.—A bill has been introduced in the legislature to incorporate the Middle Georgia Bank, of Eatonon.

Ellijay, Ga.—The Ellijay Loan & Banking Co. is reported as to be organized.

Glasgow, Va.—The Commercial Bank will, it is stated, be converted into a national bank.

Lynchburg, Va.—The Rivermont National Bank will probably be organized with a capital stock of \$200,000 by P. J. Otey and others.

Macon, Ga.—The Young Men's Savings & Loan Association has been incorporated by R. Sims, M. H. Taylor, J. N. Neel and others.

Newnan, Ga.—A bank with a capital stock of \$50,000 will probably be established. B. T. Thompson can give particulars.

Oglethorpe, Ga.—A bill has been introduced in the legislature to incorporate the Bank of Oglethorpe.

Paintsville, Ky.—The Merchants' Bank, of Paintsville, will, it is stated, be organized with a capital stock of \$50,000.

Pickens, S. C.—The establishment of a bank is proposed.

Piedmont, Ala.—A bank is reported as to be started. The Piedmont Land & Improvement Co. can give information.

Richmond, Va.—The establishment of a bank with a capital stock of \$500,000 is reported as contemplated.

San Antonio, Texas—The establishment of a national bank with a capital stock of \$250,000 is contemplated.

Shellman, Ga.—A bill has been introduced in the legislature to incorporate the Bank of Shellman.

Shendun, Va.—W. P. Roberts, of Lynchburg, is president, and B. E. Hughes, vice-president, of the Shendun Investment & Banking Co., lately reported.

Wilming on, N. C.—The Citizens' Bank has been rechartered for 20 years.

Anniston, Ala.—A bill has been introduced in the legislature authorizing the city to issue \$50,000 of bonds for school purposes.

Augusta, Ga.—The Augusta & West Florida Railroad Co., recently mentioned, has executed a mortgage to cover an issue of \$15,000 of bonds per mile, to complete its road.

Avondale, Ala.—A bill has been introduced in the legislature authorizing the issuance of \$15,000 of bonds for building a schoolhouse, paying the floating debt of the town, etc.

Bueno Vista, Va.—The city is reported as to issue \$19,000 of bonds for improvement purposes.

Carrollton, Ky.—The Carrollton Savings & Loan Association has declared a semi-annual dividend of 4 per cent.

Dallas, Texas—The Dallas Electric Co. has executed a mortgage, with the American Loan & Trust Co., of Boston, Mass., as trustee, to secure the issuance of \$300,000 first mortgage 30 years 6 per cent. bonds for further equipping and enlarging its plant and works in Dallas.

Girard, Ala.—The action of the board of directors of the Mobile & Girard Railroad Co. to issue bonds at the rate of \$12,750 per mile for extensions, lately referred to, has been ratified by the stockholders. The issue is not to exceed \$4,000,000, \$1,000,000 of which are to take up old bonds of the company.

Glasgow, Va.—The West End Glasgow Land Co. has declared a dividend of 30 per cent.

Harriman, Tenn.—The East Tennessee Land Co. has declared a quarterly dividend of 6 per cent.

Knoxville, Tenn.—The East Tennessee, Virginia & Georgia Railroad Co. will, it is stated, pay at its New York office December 15 a dividend of 5 per cent. on first preferred stock.

ALEX. BROWN & SONS

ESTABLISHED 1811.

Cor. Baltimore and Calvert Streets,
BALTIMORE, MD.
AND

BROWN BROTHERS & CO.

New York, Philadelphia and Boston.

Foreign and Domestic Bankers,
AND MEMBERS OF THE
Baltimore, New York and Philadelphia
Stock Exchanges.

(Private wire between Baltimore, Boston,
Philadelphia and New York.)

Interest allowed on deposits of
Banks, Bankers, Corporations and Indi-
viduals (by agreement). Railroad,
Municipal & other Loans Negotiated.

BUY AND SELL BILLS OF EXCHANGE

on Great Britain and Ireland, France, Germany,
Holland, British West Indies and other foreign
points.

Issue Commercial and Travelers' Letters of Credit.

IN STERLING, available in any part of the
world; and IN DOLLARS, for use in this
country, Canada, Mexico, the West Indies and
South America.

Make Cable and Telegraphic Transfers of Money.

Drafts Collected in all parts of the World.

BROWN, SHIPLEY & CO., LONDON.

English Money Syndicate.

MOREHEAD & OGDEN BANKERS,

No. 48 Exchange Place, New York.

TRANSACT A GENERAL BANKING BUSINESS.

Government, State, Railway, Municipal and
County Bonds Bought and Sold.

Make Collections of Drafts, Notes, Dividends
and Coupons, throughout the United States and
Canada. Buy and Sell Bills of Exchange.

Receive Deposits Subject to Check at Sight.
Allow Interest on Daily Balances.

Accounts of Banks, Bankers, Corporations and
Individuals Solicited.

Act as Fiscal Agents for States, Cities, Counties
and Corporations.

We are prepared, through the
highest English connections, to
negotiate the sale of American manu-
facturing and other properties in
England.

KEEP BOOKS

by WEST'S New Original-ENTRY LEDGER

Make the same entry but once. A Ledger in place
of a full set of books. Convenient forms for all
entries. Easily applied, simple, saves time. West's
Self-Proving Balance locates every error. Send 2
cent stamps for illustrated 16-page pamphlet.

WOLCOTT & WEST, SYRACUSE, N. Y.

BASIC CITY.	Number of lots given with each to sh'stck. organized.	When to sh'stck. organized.	Capital stock. Author. Paid up. \$	Par 100	Bid.	Asked
Basic City M'n'g, Mig. & Land Co... BRISTOL	Dec. 7, '90	\$700,000	50 \$	100	..	35
Southwest Bristol Land Co*....	Aug. '90	300,000	\$150,000	100	..	..
Pioneer Land Co....	June, '90	500,000	.....	100	..	..
Richmond & Bristol Land Co....	June, '90	220,000	.....	20	..	..
Commonwealth Land Co.... BUCHANAN.	June, '90	104,000	60,000	30	..	..
Central Land Co*....	Ap'l 12, '90	1,500,000	750,000	100	..	73
BUENA VISTA.	Feb. 14, '90	800,000	50 \$	100	73	80
Buena Vista Improvement Co.... CLIFTON FORGE.	Jan., 1890	50,000	full paid	100	124	140
C. & O. Development Co*....	April, '90	300,000	.....	100	..	75
Clifton Forge Mfg. & Devel. Co**....	Aug. 18, '90	200,000	.....	100	..	120
Clifton Forge Co.... CHARLOTTESVILLE.	May, 1890	400,000	.....	100	..	..
Charlottesville Ind. & Land Imp. Co*....	April, '89	50,000	.....	50	50	53
Belmont Land Co....	July 15, '89	100,000	.....	100	..	105
Charlottesville Development Co....	Aug 1, '89	40,000	.....	50	..	..
West End Land Co....	April 1, '89	40,000	.....	50	..	35
Jefferson Park Improvement Co.... GLASGOW.	Aug. 15, '89	150,000	.....	50	..	100
Rockbridge Co....	Sept., '89	5,000,000	475,000	100	..	110
West End Glasgow Land Co.... HARRISONBURG.	March, '90	.....	103,000	..	..	125
Harrisonburg Land & Imp. Co.... LYNCHBURG.	May 22, '90	150,000	.....	100	100	110
West Lynchburg Land Co*....	.....	1,000,000	45 \$	100	..	..
Riverton Co....	.....	1,500,000	40 \$	10	..	2
South Lynchburg Land Co*....	.....	.....	60 \$	100	..	..
Park Avenue Land Co.... PETERSBURG.	.....	100,000	50 \$	100	..	..
West End Land & Improvement Co....	June 15, '90	25,000	50 \$	60	..	..
Virginia Immigration L'd & Imp. Co.... PULASKI.	July 10, '90	50,000	100	..	..	121
Pulaski Development Co*.... STAUNTON.	March, '90	500,000	200,000	..	40	..
Staunton Development Co*.... STAUNTON.	April, '90	2,000,000	.....	..	..	..
*Stock declared full paid. †5 per cent. dividend declared October, 1889. ‡10 per cent. dividend declared, payable January 1, 1891. **\$84,000 held in treasury. †When 50 per cent. has been paid in the stock will be declared full paid. The company receives the stock at \$75 in payment ad 4th payments for lots purchased of them. ††Stock taken at \$150 in part payment for lots.						

EQUITABLE MORTGAGE COMPANY.

Capital Subscribed.....	\$2,000,000.00
Paid in (cash).....	1,000,000.00
Surplus, undivided profits.....	396,715.85
Assets.....	11,168,955.04

The well-known firm of accountants, Barrow, Wade, Guthrie & Co., of London, Manchester and New York, upon auditing the accounts of the Company as published June 30th, 1890, appended thereto is the following certificate:

Having examined the books of the Equitable Mortgage Company, we hereby certify that the foregoing accounts and statement are in conformity therewith, and we believe that the accounts fully and fairly represent the position of the Company as on the 30th June, 1890.

BARROW, WADE, GUTHRIE & CO.
New York, 16th October, 1890.

OFFICES:
New York, 208 Broadway. Kansas City, Mo.
Boston, 117 Devonshire St. London, England.
Phila., 4th & Chestnut Sts. Berlin, Germany.

Important to All Corporations.

Every Incorporated Company should USE KAUFFMAN'S Copyrighted Forms of Improved Record Book, Transfer Book, Stock Register, Stock Ledger and other valuable Books. Write for Descriptive Circular. Address

CORPORATION BOOK CO.
Room 35, Lucas Bldg., 1326 Chestnut St., Philadelphia, Pa.

JOHN L. WILLIAMS & SON, BANKERS,

RICHMOND, VA.

Our Manual of Investments for 1890, the largest work of the kind published by any banking house in America, (406 pages, octavo, cloth,) may be had without charge by clients, correspondents and those expecting to do business with us; by others at \$2 per copy.

Richmond Stock Exchange Quotations.

Reported by JOHN L. WILLIAMS & SON, Bankers, Richmond.

RICHMOND, VA., December 2, 1890.

	RD. ASKED.
North Carolina 4's, 1910.....	98
North Carolina 6's, 1919.....	120 125
Virginia New 3's, 1912.....	64 65
Danville 5's.....	100 105
Lynchburg, Va., 5's, 1915.....	103 ..
Petersburg, Va., 5's, 1918.....	104 ..
Norfolk, Va., 5's, 1911.....	102 ..
Atlanta & Charlotte Ry. 1st 6's, 1907-17.....	100 105
Atlanta & Charlotte G'd 6's, 1900.....	100 105
Char. Col. & Aug. R.R. Gen. 6's, 1912.....	100 105
Georgia Pacific Ry. 1st 6's, 1922.....	110 115
Georgia Pacific 5's, 1923.....	68 72
Ga. Pacific Income 5's, 1915.....	15 20
Petersburg Railroad Class A 5's, 1926-1924.....	100 ..
Petersburg Railroad Class B 6's, 1926-1925.....	100 ..
Rich. & Danville R. R. Gold 6's, 1915.....	100 ..
West. N. Car. R. R. G'd 6's, 1914.....	98% 100
Northwestern N. Car. R. R. 1st 6's.....	102 105
Atlanta & Charlotte R. R. Stock.....	95% 95%
North Carolina Railroad Stock.....	100 ..
R. F. & Pot. R. R. Div'd Obligations.....	112 114
Virginia Midland Railway Stock.....	25 ..
Sloss Iron & Steel Co. Stock.....	25 ..
Sloss Iron & Steel Co. 1st 6's.....	94 ..
Sloss Iron & Steel Co. 2d 6's.....	.. ..

Southern Securities

BOUGHT AND SOLD.

We Buy Total Issues of City, County,
Water Company and Street Railroad

BONDS

Correspondence Solicited.

N. W. Harris & Co.

BANKERS,

163 & 165 Dearborn St., Chicago, 70 State St., Boston.

*Stock declared full paid.
†5 per cent. dividend declared October, 1889.
‡10 per cent. dividend declared, payable January 1, 1891.
**\$84,000 held in treasury.
†When 50 per cent. has been paid in the stock will be declared full paid. The company receives the stock at \$75 in payment ad 4th payments for lots purchased of them.
††Stock taken at \$150 in part payment for lots.

NOTICE.

The town of Hendersonville, N. C., has issued
\$15,000.00

In Bonds for Sewerage, Water Works, &c.

These bonds are now for sale. They bear 6 per cent. interest, and the interest is payable semi-annually. The bonds are well secured, and offer a fine investment for someone. For further information apply to V. L. Hyman, mayor, or W. A. Hood, secretary.

V. L. HYMAN, Mayor.

**National Bank of Commerce
OF BALTIMORE.**

Capital \$300,000.
Surplus and Undivided Profits \$50,000.

Specially solicit the accounts of banks and bankers. Allows them a liberal rate of interest on daily balances. Credits them at par with items on the Eastern States, Maryland and adjoining States and the prominent cities of the Western States. Correspondence invited.

**ADDITIONAL CAPITAL
PROCURED**

For Approved Southern Industrial Undertakings, Companies Promoted for the Development of Coal, Iron and other properties upon reasonable terms under English laws. Railway and other well-secured loans negotiated. Correspondence invited. Address

E. B. NEWBURN,

10 Leicester Square, Hyde Park.
LONDON, ENGLAND.



DESKS,
Chairs,
Office Furniture
SEND FOR CATALOGUE.
DERBY & KILMER DESK CO.
Salesrooms,
opp. Lowell Depot,
93 Causeway St., Boston.



**AN ELEGANT OFFICE CHAIR
FOR \$5.00.**

A RARE CHANCE

Only a limited number for sale
at this price.



WILL REVOLVE AND TILT.

The Top Beautifully Carved, and Back Perforated in Graceful Patterns of Neat Design.

Chair Finished in Birch—Natural Color.
Back and Seat made of Three-ply Veneer,
which is Grooved into the Frame.

NO TACKS TO PULL OUT AND TEAR CLOTHING.

To reduce our large stock we are offering these chairs direct to consumers at a sacrifice.

PRICE \$5.00 ON CARS, RACINE.

This price is for you, gentle reader.

ADDRESS ALL ORDERS TO

RACINE HARDWARE MFG. CO., Racine, Wis.

PLEASE MENTION "MANUFACTURERS' RECORD."

PROPOSALS.

SEWER PIPE.—Sealed proposals will be received by the Mayor and Board of Aldermen of the City of Winston, N. C., until 2 o'clock P. M. of Monday, December 22, 1891, for furnishing about 4 miles of Sewer Pipe, from 6 to 24 inches diameter, and fittings for same. Specifications, approximate quantities, etc., may be obtained from the Chairman of the Sewerage Committee or the Engineer. The right is reserved to reject any or all bids. J. W. ALLSPAUGH Chairman Sewerage Committee. J. L. LUDLOW, Engineer.

PROPOSALS FOR SEWERS.—Sealed proposals will be received by the Mayor and Board of Aldermen of the City of Winston, N. C., at the Mayor's office of said city, until 2 o'clock P. M. Friday, January 2d, 1891, for constructing a part of the proposed System of Pipe Sewers for said city. Copies of the general plans and specifications, forms of proposals and instructions to contractors and any information relative thereto may be obtained from the Chairman or Engineer of the Sewerage Committee. The Committee reserves the right to reject any or all bids. J. W. ALLSPAUGH, Chairman Sewerage Committee. J. L. LUDLOW, Engineer.

NOTICE TO CONTRACTORS.—LITTLE ROCK, ARK., Nov. 28, 1890. Sealed Bids will be received by the Building Committee of the Little Rock Exposition Association, at the office of Messrs. Nixon & Thompson, architects, up to noon of December 20, 1890, for the erection of an Exposition Building, according to the plans and specifications on file in the office of the above-named architects. Each bidder will be required to deposit a certified check for the sum of \$1,000, payable to the order of Logan H. Roots, Treasurer of the said Association, as a guarantee that if the work is awarded to said bidder he will enter into contract and give satisfactory bond in the sum of \$50,000 for the faithful performance of same. The board reserves the right to reject any and all bids. By order of the Board: J. H. McCARTHY, President. J. B. SUTTLER, Secretary.

FOR SALE CHEAP.
100 Horse Power Engine.

1 First-class second-hand 18x30 inch Plain Slide Valve ENGINE, built by Frick & Co. Completely overhauled and good as new. Fly wheel in 6 segments, 12 feet diameter by 20 inch face, also.
2 Second hand Horizontal Two-flue Cylinder BOILERS, 40 in. diameter and 30 feet long. Just the thing for a saw mill, where economy of fuel is no object. Address

REUTER & MALLORY,
BALTIMORE, MD.

**50,000 ACRES
COAL LAND
TO LEASE.**

THE VIRGINIA & TENNESSEE COAL & IRON COMPANY, Abingdon, Va., have 50,000 Acres of Coal Lands lying in the counties of Wise and Dickenson, State of Virginia, which they wish to lease in tracts of 500 to 1,000 acres. About 20,000 acres is near the Clinch Valley Extension of the Norfolk & Western Railroad. An average of three seams, ranging from four to eight feet in thickness above water level underlies this field. It cannot be excelled as a coking gas, steam or domestic coal. We invite an examination of the field. Railroad completed to the coal field. Address all communications to principal office, Abingdon, Va.

G. V. LITCHFIELD, Vice-President.
W. J. BROWN, Secretary.

**Valuable Property
FOR SALE.**

Surviving Partners' Sale of "Stevens' Pottery," one of the Largest Potteries in the South.

Will be sold before Courthouse door, city of Milledgeville and said County and State on first Tuesday in January, 1891, between legal sale hours, to the highest bidder, the entire plant known as Stevens' Pottery, consisting of Sewer Pipe, Fire-Brick and Stoneware Plants, fully equipped with modern machinery throughout, and all necessary buildings for successful operation. Has 2,600 acres of land, more or less, on which are fine clay beds in unlimited quantities; dwellings, tenement houses; one storehouse with mixed stock of goods. The entire property will be sold in a lump; terms cash. Sold for division between surviving partners and legatees of deceased partner. Purchasers invited to inspect property. Titles perfect and business paying handsome dividend. W. C. & J. H. STEVENS, surviving partners of

STEVENS BROS. & CO.

Stevens' Pottery, Ga.

The Southern Investment Co.

J. J. BURNS, Manager. 167 Dearborn St., Chicago, Ill.

BUY AND SELL SOUTHERN REAL ESTATE,

City and Town Property. Mineral and Timber Lands, Mines, Mills, Furnaces and Factories. Colonies Established.

Correspondence Solicited.

WILSON, COLSTON & CO. [Members of Baltimore Stock Exchange]
BANKERS,

216 East Baltimore Street, Baltimore, Md.

Investment and Miscellaneous Securities a specialty, and large lines handled. Exceptional facilities for dealings in all classes of Southern Bonds. Loans on Collateral Securities magnified. Quotations and information furnished on application, and correspondence invited.

J. WM. MIDDENDORF. Members Baltimore Stock Exchange.

WM. B. OLIVER.

MIDDENDORF, OLIVER & CO.

BANKERS AND BROKERS,

No. 213 E. German Street, [WEYER BUILDING] Baltimore, Md.

Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other Investment Loans. Dealers in Foreign Exchange. Drafts on Europe and Letters of Credit furnished.

Southern Railway Construction Co.
Capital \$500,000.

Organized for the especial purpose of negotiating Southern Railway Bonds and General Securities, and the building of railroads, Water Plants and other Public Works. OFFICES: New York, 37 Broadway; Chattanooga, Tenn., Richardson Building; Louisville, Ky., 327 Fifth Street.

GENERAL OFFICE, CHATTANOOGA, TENN.

Gov. John B. Gordon, Georgia, President; Chas. O. Beede, Lynn, Mass., ad Vice-President; Chas. A. Brooks, New York, 1st Vice-President; Roland C. Cook, Chattanooga, Tenn., Secretary and Treasurer; Chas. E. Danforth, New York, General Manager.

200,000 SHARES STOCK

American Midland Railway, New York to Chicago.

(200 miles shorter than the New York Central and 120 miles shorter than the Pennsylvania.)

\$10.00 per Share.

Par Value \$100.00.

Payable \$1.00 per Share on Application.

" 2.00 " " Allotment.

" 3.00 " " In 30 days thereafter.

" 4.00 " " In 30 days thereafter.

No subscription binding until the entire amount is subscribed. Send for circular.

JOEL HAYDEN & CO.

Agents for New England States.

No. 19 Congress Street.

BOSTON, MASS.

Christie & LeCount, 351 Canal St., N.Y.

MANUFACTURERS OF

FIRE HOSE.

All Appliances for Fire Protection for Cities or Mills. General Mill Supplies. Send for illustrated circulars.

W. J. CLARK & CO., Salem, O.

MANUFACTURERS OF

Elevating & Conveying Specialties

Sole Manufacturers of the "SALEM" ELEVATOR BUCKET, for Mill and Elevator work, Ear Corn, Corn and Cob, Ores, Coal, Broken Stone, &c. Send 9 cents (stamp) for postage on Sample Salem Bucket and Illustrated Catalogue.

S. E. CRAWFORD,

NORWALK, OHIO.

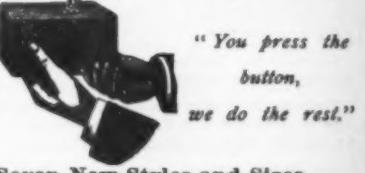
MANUFACTURER OF

Rubber Bucket Chain

and Wood Force Pump Supplies.

Correspondence Solicited.

NEW + KODAKS.



" You press the
button,
we do the rest."

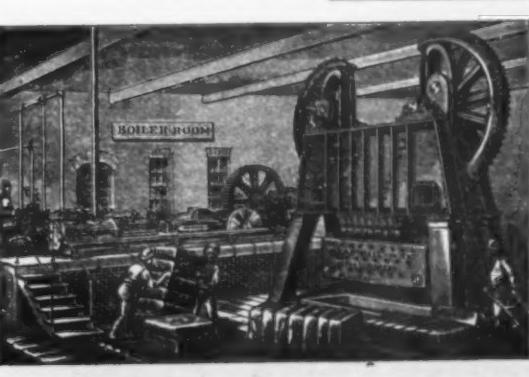
Seven New Styles and Sizes
ALL LOADED WITH TRANSPARENT FILMS.

For Sale by all Photo. Stock Dealers.

THE EASTMAN COMPANY,
Send for Catalogue. ROCHESTER, N.Y.

THE CAMPBELL COTTON COMPRESS

Is sold on the following **GUARANTEE:**



DENSITY Obtained
Equal to Any.

COST of Plant Less
Than Any.

EXPENSE of Running
Half of Any.

First-Class Compress.

Correspondence Solicited.

The Campbell Cotton
Compress Co.

109, 111, 113 & 115 E. Front St.

CINCINNATI, O.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Anniston—Machine Works.—The Rollstone Machine Co. contemplates increasing its capital stock and building an iron foundry.

Bessemer—Bottling Works and Ice Factory.—Mr. Meuman is reported as to erect an ice factory and bottling works.

Bessemer—Gas Works.—C. M. Avent will probably build gas works.

Florence—Cotton Mill.—It is proposed to organize the Union Cotton Mills Co. with a capital stock of \$100,000 to erect the cotton mill mentioned last week. The Florence Land, Mining & Manufacturing Co. can give information.

Florence—Iron Furnace, Rolling Mill, &c.—The Florence Land, Mining & Manufacturing Co. is negotiating for the construction of an iron furnace, rolling mill and pipe works.

Huntsville—Canning Factory.—The Farmers' Alliance contemplates establishing a canning factory.

Jasper—Brick Works.—W. H. Moore has organized a stock company, it is reported, to establish brick works.

Jasper—Rolling Mill.—J. F. Johnston, of Birmingham, is negotiating with a party for the construction of a \$125,000 rolling mill in Jasper.

Mount Vernon—Cotton Gin, Mill, &c.—Walter Simonson is erecting, it is reported, a cotton gin, lumber mill and grist mill.

Pell City—Iron Furnace.—It is stated that contract has been signed for the construction of the iron furnace previously mentioned. E. D. Pike can give information.

Sheffield—Gas Wells.—E. H. Lawrence will sink gas wells, as recently stated.

Tredegar (P. O. at Jacksonville)—Brick Works. The Tredegar Brick & Tile Co., previously reported, will double the capacity of its plant.

Uniontown—Electric-light Plant and Water Works.—The city will construct the water works system mentioned last week and contemplates the erection of an electric-light plant. J. C. Welch, mayor, can give information.

Whistler—Agricultural Implement Factory.—An agricultural implement factory will, it is stated, be erected.

ARKANSAS.

Batesville—Electric-light Plant.—The Batesville Water & Electric Light Co. has been incorporated with S. B. Hartz, president, to erect the electric-light plant and construct the water works recently mentioned. The capital stock is \$100,000.

Dardanelle—Bridge.—The Dardanelle Pontoon Bridge & Turnpike Co., recently reported, has commenced work on the construction of its bridge.

Fort Smith—Canning Factory, &c.—The Border City Wood Package & Canning Co. has been incorporated with L. W. Bons, president; D. J. Young, vice-president, and John Mathews, secretary, to manufacture packages for fruit, &c. The capital stock is \$50,000.

Hot Springs—Land.—The Gulphia Land & Improvement Co. has been incorporated with M. H. Todd, president; A. P. Aldrich, vice-president, and S. P. Van Patten, secretary, to improve land, &c. The capital stock is \$25,000.

Little Rock—Saw Mill, &c.—Hill & Loomis are building a saw mill, as lately reported, and contemplate putting in dry-kilns and planing mill.

Little Rock—Gin Factory.—The Thomas Manufacturing Co. is erecting a factory for the manufacture of the Gwathmey hulling and end feed cotton gin.

Red Rock—Chair Factory and Saw Mill.—J. S. Orr and Robert McMillen will establish, it is reported, a chair factory and saw mill.

FLORIDA.

Apalachicola—Grist Mill.—The erection of a grist mill is talked of.

Eustis.—The Lake Eustis Orange Grove Co. has increased its capital stock to \$120,000.

Jacksonville—Shoe Factory.—W. N. Emery intends to build next year the \$65,000 shoe factory mentioned in last issue (under Riverside).

Jacksonville—Cigar Factory.—The Messrs. Stockelberg, of New York, have established a cigar factory.

Macclenny—Cigar Factory.—Negotiations are pending with Indiana parties for the removal of a cigar factory to Macclenny. Secretary Board of Trade can give information.

Macclenny—Rice Mill.—The rice mill recently mentioned has been established.

Putnam County—Saw Mill and Timber Land.—William Stokes & Son have purchased 15,000 acres of timber land in Putnam county, and will erect, it is reported, a saw mill to develop same.

Riverside—Furniture Factory.—Clark & Loftus, of Jacksonville, contemplate the erection of the furniture factory mentioned last week.

Tampa—Brewery.—A Brunswick (Ga.) party is reported as to erect a brewery in Tampa.

Tampa—Lumber Mill.—The Tampa Lumber Co. has purchased the Dixon lumber mill, and will operate it as lately reported.

GEORGIA.

Abbeville—Saw Mill.—Dun Bros. will erect, it is reported, a saw mill.

Adel—Saw Mill.—McQueen Bros., of Red Springs, N. C., have purchased, it is stated, the Wilby & Mathis saw mill.

Albany—Water Works.—It is stated that contract has been let for the sinking of an artesian well for the water works previously mentioned. Nelson Tift can give information.

Americus—Artesian Well.—J. B. Felder invites proposals for the sinking of an artesian well.

Athens—Laundry.—B. F. Thorpe is reported as to organize a stock company to erect a steam laundry.

Athens—Planing Mill.—A planing mill will, it is reported, be erected by S. T. Voss.

Atlanta—Gas Plant.—A bill has been introduced in the legislature to incorporate the Fuel & Gas Lighting Co. of Atlanta.

Atlanta—Lumber Mill.—J. C. Clark and others will incorporate, it is stated, the Clark Lumber Co. with a capital stock of \$25,000.

Augusta—Bridge.—The Milwaukee Bridge Co., of Milwaukee, Wis., has received contract to construct the North Augusta Land Co.'s steel bridge across the Savannah river, recently mentioned.

Cordele—Saw Mills.—A Darlington (S. C.) party is investigating with a view to erect saw mills in the vicinity of Cordele. J. E. D. Shipp can give information.

Fannin County—Gold.—Atlanta parties are developing a gold mine in Fannin county, as recently reported.

Fort Valley—Water Works.—A bill has been introduced in the legislature to authorize the city to issue bonds for the construction of the water works previously mentioned.

Gainesville—Corn Mill.—A corn mill has been established, it is reported, by W. W. Woford.

Griffin—Handle Factory.—The Griffin Agricultural Works is erecting the handle factory mentioned in last issue.

Kensington—Iron Mine.—The Kensington Iron & Coal Co. is reported as opening another iron mine near Kensington.

Lexington—Granite Quarries.—The Blue Granite Co. will probably develop granite quarries.

Lexington—Harness Factory.—A harness factory is reported as to be established.

Macon—Real Estate.—H. & E. A. Horne have incorporated the H. Horne Real Estate, Insurance & Investment Co. to deal in real estate, etc. The capital stock is to be \$25,000.

Perry—Real Estate.—The organization of a real estate improvement company is talked of.

Rome—Machine Shops.—The East Tennessee, Virginia & Georgia Railroad Co. (office, Knoxville, Tenn.) will erect machine shops in Rome, it is reported.

Savannah—Woodworking Factory.—A Dayton (Ohio) party will, it is reported, remove a woodworking factory to Savannah.

Savannah—Knitting Factory.—A knitting factory will, it is reported, be established.

Way Cross—Publishing.—A stock company is reported as organized to publish a newspaper.

West Point—Fertilizer Factory.—A fertilizer factory is reported as to be established.

KENTUCKY.

Clay City—Woodworking Factory.—F. D. M. A. and E. E. Carley have incorporated the Clay City Hard Wood Co. for the manufacture of hard-wood, etc. The capital stock is \$25,000.

Covington—Coal Mines, &c.—John Carlisle and J. J. Gordon, of Cincinnati, Ohio; P. B. Warner and others have incorporated the Carlisle Coal Co. for the purpose of developing coal mines, etc. The capital stock is \$100,000.

Covington—Heating and Lighting Plant.—A. J. English and Powell Crosley have incorporated the Keystone Light & Heat Co. The capital stock is to be \$1,000,000.

Georgetown—Flour Mill.—Stone Bros. have put \$4,000 worth of roller machinery in their flour mill, it is reported.

Hopkinsville—Creamery.—A creamery has been established, it is reported.

Lebanon—Canning Factory.—The establishment of a canning factory is projected.

Louisville—Land.—The Magnolia Cattle & Land Co. has been incorporated with a capital stock of \$100,000.

Maysville—Industries.—The city will hold an election on December 15th to decide as to the appropriating of \$20,000 to secure new industrial enterprises.

Middlesborough—Register Works.—M. T. Holland, of St. Louis, will, it is reported, establish in Middlesborough works for the manufacture of steam and water registers.

Middlesborough—Soda Water Factory.—Marks & Bellis are reported as to start a soda water factory.

Pineville—Furniture Factory.—Beatty & Blanc will organize, it is reported, a \$20,000 stock company to erect a furniture factory.

Pineville—Iron Foundry and Nail Mill.—A Pennsylvania company is corresponding with a view of locating an iron foundry and nail mill in Pineville. The Pine Mountain Iron & Coal Co. can give information.

Pineville—Pipe Works and Furniture Factory.—A Northern company contemplates locating pipe works, and an Omaha (Neb.) company contemplates locating a school furniture factory in Pineville. The Pine Mountain Iron & Coal Co. can give information.

LOUISIANA.

Houma—Canning Factory.—An oyster canning factory has been established, it is reported.

Logansport Saw Mill.—Howell, Jewett & Co. will, it is reported, erect a saw mill.

New Orleans—Publishing.—The Repository Co., Limited, has been incorporated to publish the Deerves-Gauthreaux Street Directory, &c. The capital stock is \$100,000.

New Orleans—Sash, Door and Blind Factory, &c.—The Orleans Manufacturing & Lumber Co. is reported as having recently increased its capital stock \$60,000 and as having added a sash, door and blind factory to its plant.

MARYLAND.

Hagerstown—Land Improvement.—The Hamilton Park Co., with M. P. Caldwell, of Washington, D. C., president; J. A. Buck, of Baltimore, vice-president, and W. E. Foltz, secretary, has been organized, purchased the Hamilton farm of 180 acres for \$90,000, and will improve it.

Lap'dum—Stone Quarry.—J. E. Spencer has opened a stone quarry, it is stated.

Montgomery County—Power-house.—Leon E. Dessev is preparing plans for the erection of the power-house of the Rock Creek Railway Co., of Washington, D. C., to be built in Montgomery county; it will be 130x110 feet, and will cost \$75,000.

Ocean City—New Town, &c.—The Syneputent Beach Co., previously reported, has been incorporated with J. P. Thom as president; Theophilus Tunis, vice-president, and J. F. Turner, secretary. The capital stock is \$60,000.

Union Bridge—Lead Mines.—The Mountain View Mining Co. is to be incorporated with H. C. Turnbull, Jr., as president, and A. P. Stroebel, secretary, to develop the lead mines recently mentioned. The capital stock is to be \$1,000,000.

Washington, D. C.—Brick-kilns.—The Ivy City Brick Co. is reported as to build brick-kilns at Ivy City at a cost of \$15,000.

MISSISSIPPI.

Jackson—Sash, Door and Blind Factory.—A sash, door and blind factory is reported as in course of erection.

Meridian—Electric-light Plant.—A \$5,000 electric-light plant is reported as being put in the St. Charles Hotel.

Meridian—Publishing.—The Meridian News & Publishing Co. has amended charter, increasing its capital stock to \$100,000.

Meridian—Cotton Factory.—The organization of a stock company to erect a cotton factory is talked of.

Water Valley—Electric-light Plant.—The city has contracted with the Thomson-Houston Electric Co., of Boston, Mass., as lately stated, for the erection of an electric light plant.

NORTH CAROLINA.

Asheville—Medicine Factory.—C. R. Kopp and G. A. Litchenerger have started a patent medicine factory, as recently reported.

Asheville—Saw Mills.—The P. A. Demens Woodworking Co. has purchased the Cushing & Chapman saw mills and will operate them, as reported last week.

Blue Wing—Copper Mines, Concentrating Works, &c.—The Yancey Copper Mining Co. has purchased copper mines, is developing same, and will erect a concentrating plant.

Blue Wing—Concentrating Plant, &c.—A stock company has been organized to erect a concentrating, smelting and refining plant at Rake City. W. Raker is president; J. H. Reed, vice-president, and W. L. Raker, secretary.

Bryson City—Saw Mill.—Mr. Willhyde has moved his Grayson county saw mill to Bryson City, as recently reported.

Bryson City—Real Estate, &c.—E. Everett, A. B. Allison, A. M. Fry and others have incorporated the Bryson City Land & Improvement Co. to deal in real estate, &c. The capital stock is \$100,000.

Cedar Falls—Saw Mill, &c.—The correct name of the firm lately reported as having erected a saw mill and shuttle-block factory is Cox, Tippett & Henson.

Edenton—Saw Mill.—D. W. Raper will erect a saw mill, as reported in last issue.

Faith—Saw Mill and Gin.—J. W. Frick has recently erected a saw mill and cotton gin.

Greensboro—Ice Factory.—W. E. Worth, of Wilmington, N. C., is stated, purchased A. J. Hine's ice factory for \$12,000, and will probably operate it.

Lexington—Tobacco Factory.—M. K. Gray is reported as to erect the tobacco factory lately mentioned.

Monroe—An election will be held on December 18 to consider the issuance of \$25,000 of bonds for street improvements and procuring necessary facilities for lighting the town. The mayor can give particulars.

Monroe—Iron Works, &c.—The Monroe Iron Works has, it is stated, enlarged its works by the addition of a sash and blind factory.

Morrisville—Gold Mine.—W. F. Clark and E. W. Gates will probably develop a gold mine.

Newton—Shoe Factory.—The Farmers' Alliance contemplates establishing a shoe factory.

Raleigh—Acid Phosphate Factory.—An acid phosphate factory is reported as to be erected.

Raleigh—Electric-light Plant, &c.—The North Carolina Wagon Co. will put, it is stated, an electric-light plant in its wagon factory.

Raleigh—Electric-light Plant.—The Raleigh Street Railway Co. is reported as to erect an electric-light plant.

Reidsville—Electric-light Plant.—The city has purchased, it is reported, the electric light plant of the Reidsville Electric Light & Power Co.

Reidsville—Fertilizer Factory.—Robert Harris & Bro., A. H. Motley & Co. and others are reported as having organized a stock company to erect a fertilizer factory.

Salisbury—Granite Quarries.—J. T. Wyatt has recently purchased granite quarries and is developing same.

Wadesborough—Stone Quarry.—The Wadesborough Brown Stone Co. has put additional machinery in its quarrying plant.

Wilkesboro—Land Improvement.—The Winston Land & Improvement Co., with G. W. Hinshaw, president, has been organized and, it is stated, purchased 200 acres of land from A. W. Finley and a large tract from E. S. Blair, which it will improve.

Winston—Sewers.—J. L. Ludlow will receive proposals until January 2d, 1891, for constructing part of the proposed system of pipe sewers.

SOUTH CAROLINA.

Anderson—Land Improvement.—A land improvement company has, it is stated, purchased a tract of the Creswell lands, and will lay off same into building lots.

Anderson—Improvement.—A bill has been introduced in the legislature to incorporate the Anderson Construction & Improvement Co.

Charleston—Real Estate, &c.—The Charleston Real Estate & Investment Co. has been incorporated with W. F. Maguire, president, and T. J. Price, secretary, to deal in real estate, &c. The capital stock is \$10,000.

Columbia—Factory.—The Miller Bolting & Manufacturing Co. has been organized with Jasper Miller, president, and E. C. Haynesworth, secretary. The capital stock is \$40,000.

Columbus—Publishing.—A stock company is reported as to be organized for the purpose of publishing a newspaper.

Laura—Marble Quarry.—G. B. Anderson and J. D. Masters will, it is reported, organize a stock company to develop a marble quarry.

Marion—Laundry.—The establishing of a steam laundry is talked of.

Prosperity—Harrow Factory.—A stock company will be organized, it is reported, to erect an adjustable harrow factory.

Rock Hill—Machine Works.—W. S. Creighton, Louis Sherberer, W. S. Kay and others have incorporated the Rock Hill Machine Co. and will establish machine works.

Summerville—The A. W. Taylor Land & Lumber Co. has recently increased its capital stock \$5,000.

TENNESSEE.

Bristol—Drug Factory.—The Brown Manufacturing Co., of Greenville, is reported as to move its drug factory to Crossville, and as to erect a \$4,000 factory.

Chattanooga—Plow Factory.—The Chattanooga Plow Co. will, it is stated, erect additional buildings for its plow factory.

Charleston—Chair, Sash and Blind Factory, &c.—The Paddock Lumber Co. will erect, it is reported, a chair, sash and door factory and lumber mill.

Chattanooga—Machine Shop.—The Chattanooga Machinery Co. is reported as to put additional machinery in its machine shop.

Chattanooga—Cider Factory.—F. A. Hervey will establish the cider factory mentioned last week.

Clarksville—Snuff Factory.—Clark & Bro. have recently made a proposition to erect the snuff factory previously mentioned.

Crossville—Saw and Grist Mill.—Samuel Cline, of Nashville, will, it is stated, move his saw and grist mill to Crossville.

Dunlap.—In reference to the report that an English syndicate was negotiating for its coal and iron properties, the Dunlap Coal, Iron & Railway Co. states that it is without any foundation whatever, and the company will carry out its intention to develop the property and build an industrial town.

Greeneville—Woolen Mill.—Stephens Bros. will rebuild their woolen mill, reported in this issue as burned.*

Greeneville—Box Factory.—The Greeneville Box Factory & Planing Mill will erect a new box factory six thousand feet, three stories high.*

Harriman—Artesian Wells.—T. E. Cross, of New York, contemplates sinking artesian wells in Harriman.

Johnson City—Fire-clay Works.—The Johnson City Brick Works has purchased fire-clay deposits near Johnson City, and will erect fire-clay works, as recently stated.*

Jonesboro—Woolen Mill.—The organization of a stock company to erect a woolen mill is talked of.

Jonesboro—Medicine Factory.—The East Tennessee Medicine Co. is reported as organized to start the medicine factory mentioned last week.

Knoxville—Gold Mines.—J. M. Masters, S. M. Johnson, J. B. Hargrove and others have incorporated the Monarch Gold Mining Co. to develop land in North Carolina and Tennessee.

Knoxville—Sewerage System.—The city will petition the legislature for authority to vote on the issuance of bonds for the construction of the sewerage system previously mentioned.

Lawrenceburg—Furniture Factory.—George Mester is reported as organizing a \$25,000 stock company to erect a furniture factory.

Morristown—Laundry.—A laundry is reported as to be established.

Morristown—Stove Foundry.—The Morristown Stove Works will increase its capital stock by \$15,000, it is stated, and will probably enlarge foundry.

Mountain City—Iron Mine.—David Jenkins is, it is stated, opening an iron mine in Doe mountain, near Mountain City.

Murfreesboro—Water Works.—A \$20,000 stock company is reported as organized to construct water works.

Nashville—Ice Factory.—Meadors & Osgood are erecting an ice factory, as stated last week. Contract for machine has been let to the Hercules Iron Works, of Chicago, Ill.

Nashville—Electric-light Plant.—The Capitol Electric Co. will put new machinery in its electric-light plant, as reported last week.

Ridgeville—Car Works, &c.—It is stated that the planing mill of W. B. Farrar & Co. will be converted into car works, and that A. S. Glover, W. B. Farrar & Co., Mr. Tipton, of Dalton, Ga., and others will organize a stock company to operate same. Machine shop, blacksmith shop and car wheel foundry are to be included in the plant.

Saint Elmo—Medicine Factory.—The Chattanooga Medicine Co. (office, Chattanooga) will rebuild its medicine factory reported last week as burned.*

TEXAS.

Archer—Land, &c.—C. H. Silliman and S. M. Smith, of Fort Worth, and W. H. Price are the incorporators of the Archer Land & Abstract Co., lately reported. The capital stock is \$10,000.

Baird—Flour Mill.—Mr. Hensley contemplates purchasing the Day flour mill, putting in roller machinery and operating it.

Bay View—Broom Factory.—A broom factory has been established, it is reported.

Beaumont—Car Works.—W. A. Fletcher is president; H. V. B. Stimson, of Laconia, N. H., vice-president, and H. W. Greer, secretary, of the Beaumont Car Works, recently reported. It is stated that the main buildings will be 500x75 feet, the machine and woodworking shops 500x250 feet, and that work on the plant will be commenced at once.

Bonham—Ice Factory.—T. H. Dodd will, it is stated, erect an ice factory.

Brenham—Paper Mill.—Emil Bohn will, it is stated, organize a stock company to erect a paper mill.

Cuero—Canning Factory.—The erection of a canning factory is probable. Mr. Crain can give information.

Dallas—Electric Plant.—The Dallas Electric Co. will issue \$300,000 of bonds for the purpose of enlarging and further equipping its electric plant.

Dallas—Water Works, &c.—Eugene and Edgar Sweeney and Thomas Trotman have incorporated the Fairland Water Works & Park Co. with a capital stock of \$25,000.

Dallas—Iron Works.—The organization of a \$25,000 stock company to establish works for the manufacture of car axles, shafting, &c., is talked of. Alderman Hughes can give information.

Dallas—Publishing.—Messrs. Rose and others have incorporated the Texas Railroad Guide Publishing Co. with a capital stock of \$10,000.

Denison—Iron Furnace.—It is stated that the construction of an iron furnace by Chicago (Ill.) parties is probable.

Eagle Pass—Water Works.—A 2,000,000-gallon reservoir is reported as to be constructed. F. H. Hartz can give information.

Fort Worth—Barrel Factory.—J. M. Moore, of Wichita, Kans., and James Kinlen, of Dallas, will probably establish a barrel factory in Fort Worth.

Gainesville—Canning Factory.—It is proposed to organize a \$20,000 stock company to erect the canning factory previously mentioned.

Galveston—Land.—The Altar Land Co. has been organized with Walter Gresham, president, and H. C. Brent, secretary.

Galveston—Artesian Well.—The city has accepted the bid of J. P. Miller & Co., of Chicago, Ill., at \$75,000 for the sinking of the artesian well lately mentioned.

Hallettsville—Electric-light Plant.—The erection of an electric light plant is probable.

Honey Grove—Ice Factory.—A stock company is being organized, it is reported, to erect an ice factory.

Jefferson—Plow and Hollow-ware Works.—R. Ballauf & Co., of Kellyville, have made a proposition to remove their plow and hollow-ware works to Jefferson.

La Grange—Lime-kilns.—Louis Boso is reported as erecting lime-kilns.

Lone Grove—Cotton Gin.—G. W. Duke will probably rebuild his cotton gin reported last week as burned.*

McGregor—Water Works.—A stock company has recently been organized, it is stated, to construct water works.

Myrtle Springs—New Town.—New England capitalists have purchased, it is stated, lands in Van Zandt county and will build a new town at Myrtle Springs.

San Angelo—Manufactury.—The Butler Manufacturing Co. has been incorporated with a capital stock of \$10,000.

San Angelo—Water Works.—The San Angelo Water Works Co. is reported as having let a \$5,000 contract for the improvement of its works.

San Antonio—Ice Factory.—A proposition has been made to establish a \$20,000 ice factory.

Seymour—Land, &c.—C. H. Silliman and S. M. Smith, of Fort Worth, and W. H. Price have incorporated the Baylor Land & Abstract Co. with a capital stock of \$10,000.

Sherman—Bag Factory.—J. C. Tassey, C. C. Jones, Tom Randolph and others have incorporated the Sherman Seamless Bag Co. with a capital stock of \$200,000.

Strawn—Flour Mill.—A roller flour mill may be erected.

Tyler—Lumber Mill.—The South American Lumber Co. has been incorporated with a capital stock of \$50,000.

Victoria—Roundhouse.—The Southern Pacific Railroad Co. is building a new roundhouse, as lately reported.

Waco—Land.—A \$1,000,000 stock company is reported as organized to deal in land, &c.

Wichita Falls—Publishing.—A stock company will probably be organized to publish the Northwest Texas World. J. W. Brooks can give information.

Yoakum—Bottling Works.—Allen Farrar is reported as to establish bottling works.

VIRGINIA.

Basic City—Iron Works, Land, etc.—The Basic City Development Co. has purchased, it is stated, a tract of land adjoining the city for \$98,000, and that iron working plants will be erected upon same.

Bedford City—Wire Fence Factory.—G. R. Colgate & Co. will establish the wire fence factory mentioned in last issue.

Bedford City—Land.—The Virginia Land Co., recently mentioned, has purchased the Wheeler and Colburn tracts of 215 acres of land and will probably improve same. The capital stock is \$15,000.

Bedford City—Land.—Curtis & Co., recently mentioned as having purchased a part of the Edmund Sale estate, have incorporated the Security Land & Loan Co. to improve same. J. B. Brown, of Baltimore, Md., is president; S. B. Mosby, vice-president, and R. M. Curtis, secretary, of the company. The capital stock is authorized to be not less than \$5,000 nor more than \$25,000.

Blackstone—Woolen Mill.—A woolen mill is reported as to be erected.

Buchanan—Land.—The Mount Joy Land Co., previously reported, has, it is stated, purchased the Mount Joy property of 205 acres of land and will improve same.

Buena Vista—Improvements.—The city has, it is stated, decided to issue \$19,000 of improvement bonds.

Buena Vista—Ore-washing Plant.—The Buena Vista Iron Co. is reported as having erected an ore-washing plant.

Buena Vista—Mattress Factory.—W. N. Seay has started, it is reported, the manufacture of mattresses.

Ironton (P. O. Clifton Forge)—Iron Furnace, &c.—The Ironton Mining & Improvement Co. has been organized with George Swan, of Botetourt, president, to develop 2,200 acres of mineral land near Clifton Forge, construct a 50-ton iron furnace, build a new town to be called Ironton, &c. The capital stock is to be \$250,000.

Charlottesville—Electric Light Plant.—The Charlottesville & University Electric Light & Gas Co. is reported as putting in an arc-light electric plant.

Covington—Iron Furnace.—It is stated that the Covington Improvement Co. has closed contract with J. Bird, Jr., of Ironton, Ohio, for the removal of his iron furnace to Covington. The furnace has a capacity of 125 tons per day.

Danville—Cigarette Machine Works.—It is stated that the Carter Machine Co. will be organized with a capital stock of \$150,000 for the purpose of manufacturing the Carter cigarette machine.

Forestville—Coal Lands.—The Wolf Creek and Andrew Lytle coal tracts have been purchased, it is reported, by parties who will develop same at once.

Front Royal—Wagon Factory.—C. F. Sumption will erect and operate a wagon factory.

Front Royal—Tack and Wire Nail Works.—A tack factory and wire nail works will be removed to Front Royal and a stock company organized to operate them. The Front Royal & Riverton Improvement Co. can give information.

Gordonsville—Head Rest Factory.—The Travellers' Head Rest Co., mentioned in last issue, has been incorporated with H. L. Hoover, of Staunton, as president; J. T. Shirkey, of Staunton, vice-president, and C. F. Myers, secretary, to manufacture the Waddell traveller's head-rest. The capital stock is \$25,000.

Goshen—Iron Furnace.—The Virginia Iron Co. will expend, it is stated, \$100,000 in improving its iron furnace.

Graham—Steel Works, Stove Foundry, etc.—A tannery, steel works and stove foundry are reported as to be established. The Graham Land & Improvement Co. can give information.

Ivanhoe—Pipe Works.—The Ivanhoe Land & Improvement Co. is negotiating for the pipe works mentioned last week.

Lexington—Land.—The Rockbridge Alum Co., reported in last issue, has purchased and will improve the Rockbridge alum springs.

Lynchburg—Foundry and Machine Shops.—The Cleland Machine Works Co. has been organized, and purchased Cleland & Sons' machine shop and foundry, as reported in last issue, and will operate same.*

Lynchburg—Land.—W. F. Matthews, representing a syndicate, has purchased the Halliday Place from the Lynchburg Land, Improvement & Manufacturing Co. for \$12,000, and will, it is stated, improve same.

New Castle—Iron Mines.—It is stated that New Castle and West Virginia capitalists have purchased 180,000 acres of iron ore land on the Rich Mountain and will probably develop it.

Norfolk—Cotton Mill, Terra-cotta Works, &c.—The Norfolk & Eastern Investment Co., reported in last issue, will erect, it is stated, a 20,000-spindle cotton mill to cost \$250,000, and establish brick and terra-cotta works; also is negotiating for the erection of a hat factory and copper smelting works.

Norfolk—Dike and Jetty Construction.—G. J. Fiebeger will receive proposals for constructing dikes and jetties in the Appomattox river.

Norfolk—Real Estate.—The Elizabeth Land & Improvement Co. has been incorporated with William Pannill, president; E. H. Smith, of Baltimore, Md., vice-president, and S. S. Cartwright, secretary, to deal in real estate. The capital stock is to be not less than \$135,000 nor more than \$300,000.

Petersburg—Cotton Mill.—G. H. Byrd of New York, has purchased, it is reported, the Patterson Cotton Mill for \$40,000.

Pocahontas—The Pocahontas & Greenbrier Investment Co.—has been organized.

Richmond—Real Estate.—The Mason-Park Land Co. has been incorporated with T. G. Jackson, president; B. T. Crump, vice-president, and A. L. Adamson, secretary, to deal in real estate. The capital stock is to be not less than \$75,000 nor more than \$300,000.

Richmond—Electric-light Plant.—Levy & Davis contemplate putting in an electric-light plant.*

Roanoke—Mattress Factory.—E. H. Stewart & Co. are reported as erecting a mattress factory.

Roanoke—Iron Furnace.—The Roanoke Iron Co. has blown in its new West End iron furnace.

Roanoke—Real Estate.—The H. Webster Crowell Real Estate Co. has been organized with H. W. Crowell, president; W. U. Day, vice-president, both of Baltimore, Md., and W. M. Wishart, secretary, to deal in real estate. The capital stock is \$10,000.

Roanoke—Spike Mill.—The Midway Iron Co. has completed its spike mill and will at once commence operations.

Roanoke—Planing Mill.—The Wilmuth planing mill will be operated, as lately reported.

Roanoke—Real Estate.—The Valley Investment Co. has been incorporated with P. S. Miller, president, and J. S. Simmons, secretary, to deal in real estate. The capital stock is \$35,000.

Rochelle—Laundry.—A steam laundry is reported as to be erected.

Shenandoah—Car Shops.—The Shenandoah Valley Railroad Co. (office, Roanoke) will build car shops in Shenandoah, it is reported.

Staunton—Fertilizer Factory.—A. B. Lightner and others, previously reported as having purchased the old Burke & Bradley distillery and to remodel same for a fertilizer factory, have incorporated the Augusta Alliance Fertilizer Manufacturing Co. with A. B. Lightner, president; E. A. Fulcher, vice-president, and J. H. Connell, secretary, for the purpose of operating same. The capital stock is \$30,000.

Staunton—Wagon Factory.—The Staunton Development Co. is reported as having contracted with the Bodley Wagon Co., of Wheeling, W. Va., for the removal of its wagon factory to Staunton.

Staunton—Grain Elevator, etc.—The Staunton Steam Roller Mill Co. will erect a grain elevator, as stated in last issue, also a corn mill.*

Wetherville—Sash, Door and Blind Factory, etc.—Mr. Webster, of Maryland, and Mr. Clark, of Salem, will, it is reported, establish the sash, door and blind factory recently mentioned, also a planing mill.

WEST VIRGINIA.

Burning Springs—Pipe Line.—A stock company has been organized to construct the pipe line to Parkersburg, mentioned last week.

Cairo—Planing Mill.—McKinney Bros. are reported as erecting a planing mill.

Charleston—Soda Ash Works.—The Kanawha City Alkali Co. has been incorporated with B. D. Davis, of Washington, D. C., president; M. P. Rufner, vice-president, and T. O. M. Davis, secretary, for the purpose of manufacturing soda ash, bromine, bi-carbonate soda, etc., at Kanawha City. The capital stock is \$2,500,000.

Charlesown—Coal Lands.—The Charlesown Mining, Manufacturing & Improvement Co. has, it is stated, purchased 640 acres of land near Charlesown for \$129,500 and will improve same.

Charlestown—Land Improvement.—The Charlesown & Washington City Improvement Co. has been organized.

Harper's Ferry—Lime Works, &c.—The Lime-ton Co. has been organized with a capital stock of \$10,000 for the purpose of manufacturing lime, etc.

Martinsburg—Woolen Mill.—John Farrin & Co. will erect, it is stated, the woolen mill previously mentioned.

Milton—Planing Mill.—S. W. Neville and others have purchased the Star mill property, as lately stated, and organized the Milton Planing Mill Co. to operate it.

Monongah - Coal Mines and Coke Ovens.—It is reported that coal mines will be developed and 1,000 coke ovens constructed near Clark's Station.

Parkersburg—Coal Mine.—Joe Davis is reported as developing a coal mine.

Parkersburg—Oil and Gas Wells.—A. B. White is president, and W. C. De Camps, secretary, of the Gale Oil Co., mentioned recently. The capital stock is \$8,500.

Parkersburg—Oil Wells.—The Little Gulch Oil Co. has been organized with J. G. McCluer, president, and J. W. Campfer, secretary.

Parkersburg—Woodworking Factory.—A Northern company is reported as investigating with a view of erecting a branch woodworking factory in Parkersburg. S. L. Gould can give information.

Shenandoah Junction—New Town, Steel Plant &c.—The Antietam Manufacturing & Land Improvement Co. has been incorporated with B. R. Hutchcraft, of Knoxville, Tenn., as president; W. F. M. McCarty, vice president; E. M. Mealey, cashier; Hagerstown Bank, treasurer, both of Hagerstown, Md., and Coleman Rodgers, secretary. Its purpose is the building of the new town mentioned last week, and the capital stock is \$1,000,000. The company expects to build water works, etc., and has made arrangements for the location there of a foundry and machine shop, sash, door and blind factory, carriage factory, carpet factory and knitting mill. It is stated that other companies will build a steel plant, iron pipe works, sheet steel mill, etc.

St. Mary's—Oil Well.—The St. Mary's Oil Co. will sink another oil well.

Wheeling—Boiler Works.—Cox & Morrison will, it is stated, erect a new building for their boiler works.

Wheeling—Oil Wells.—The Snook Oil Co. has been incorporated with a capital stock of \$5,000.

Winfield—Oil Well.—The Hurricane Oil Co. will sink a new oil well.

BURNED.

Amoskeag, Ga.—The saw mills of the Amoskeag Lumber Co.; loss about \$10,000.

Fayetteville, N. C.—The cotton-seed oil mills of the Fayetteville Oil Mill Co.; loss about \$10,000.

Georgetown, D. C.—The Glen Echo Hotel; loss estimated at \$50,000.

Greeneville, Tenn.—The woolen mills of Stephens Bros.; loss about \$35,000.

Greeneville, Tenn.—The tannery of R. J. Snapp; loss about \$5,000.

Henderson, Ky.—The distillery of Withers, Dade & Co.; loss about \$25,000.

Knoxville, Tenn.—The furniture factory of the East Tennessee Furniture Co.

Kountz C. H., Texas.—The saw mill of the Tyler County Lumber Co.; estimated loss \$10,000.

Lone Pine, Va.—J. F. Noel's mill.

Magnolia, Miss.—The saw mill of M. J. Wright & Son damaged by a boiler explosion.

New Iberia, La.—The steam cistern factory of the Callahan & Lewis Manufacturing Co.; estimated loss \$19,500.

Plaquemine, La.—The sugar-house of Roth & McWilliams, on the Myrtle Grove plantation.

Prescott, Ark.—E. A. Stanton's shingle and planing mill; loss about \$5,000.

Radford, Va.—The planing mill and wood-working factory of Sturdevan & French; loss about \$17,000.

Scotland, Ga.—The saw mill of J. H. Akers & Co. destroyed by boiler explosion.

Shelbyville, Tenn.—The saw mill J. W. Hart, near New Hermon; estimated loss \$15,000.

St. Gabriel, La.—The sugar-house of Swoop & Grassis.

Washington, Ga.—The cotton gin of A. Callaway, near Washington.

Winchester, Ky.—The planing mill of Hogan Bros. & Co.; loss about \$7,000.

The cotton gins of M. G. Bean at Brookston,

Texas—loss about \$5,000; Brison & Ratliff, near Coushatta, La.; Kossuth Le Grette, at Marion, S. C.; Johnson & Etheridge, at Swainsborough, Ga.; Mr. Wright, near H'pizibah, Ga.; H. T. Patterson, near Sunny Side, Ga.; A. J. Wylie, at Floyd, La.; D. H. Woodward, at Montmorenci, S. C.; A. D. Bates, at B'lesburg, S. C.; Mrs. Berry, in Columbia county, Georgia; M. J. Newton, in Morgan county, Georgia; J. A. Butler, near Aberdeen, Miss.; Moore & Co., at Milan, Tenn.; W. E. McGeehee, at McGeehee (P. O. Hope Hull), Ala.; T. Freed & Co., at Howth Station, Texas; K. H. Faulkner, near Hempstead, Texas; Governor Eagle, in Lonoke county, Arkansas.

Building Notes.

Americus, Ga.—Hotel.—The erection of a hotel at Helena is reported. The National Guarantee Co. of Cordelle can probably give information.

Andersonville, Ga.—Club house.—E. S. Jones Post, of Macon, G. A. R., has purchased land and contemplates building a club house. I. D. Crawford, of Macon, can give particulars.

Aniston, Ala.—School Buildings.—The city will probably issue \$50,000 of bonds for the purpose of erecting school buildings. The mayor can give information.

Aniston, Ala.—Miller & Butt are preparing plans for the erection of a two-story building for a Mr. Finley, of Atlanta, Ga.

Ashland, Ky.—Opera-house.—The Independent Order of Odd Fellows are reported as to erect a building, which will include an opera house.

Athens, Ga.—Hotel.—R. K. Reaves is reported as contemplating building a hotel to cost \$125,000.

Athens, Tenn.—Opera house.—M. D. Cone has let contract for the erection of an opera-house building to cost \$5,000.

Atlanta, Ga.—The American Investment Co., recently organized, intends building houses.

Avondale, Ala.—School-building.—The city will probably issue \$15,000 of bonds for the purpose among others of building a schoolhouse.

Baltimore, Md.—Building permits have been granted to G. W. Parks for the erection of 12 two-story houses: Charles O'Connell, for 29 two-story houses; J. W. Hoffaker, for 10 two-story houses, and to T. M. Atkinson, for 4 two-story houses.

Baltimore, Md.—Church.—The building of an edifice for St. Paul's Reformed Church is contemplated. A building committee, including J. J. Roberts, J. W. Fitzer, George Greenwood and others, has been appointed.

Baltimore, Md.—School Building.—The erection of a new building for the Western Female High School is proposed.

Beaumont, Texas.—Hotel.—The Beaumont Car Works contemplates building a two-story hotel 90x60 feet.

Bedford City, Va.—J. P. Pettyjohn, of Lynchburg; Augustus Wright, of Petersburg, and A. M. Hugheitt, Jr., are each reported as to build a residence.

Bessemer, Ala.—Warehouse.—The Alliance Mercantile & Warehouse Co. has been incorporated by S. H. Huey and J. V. Huey, of Woodward. The capital stock is \$10,000.

Birmingham, Ala.—A building permit has been granted to J. F. B. Jackson for the erection of a three-story brick building to cost \$20,000.

Blountsville, Ala.—Courthouse.—A bill has been introduced in the legislature authorizing the commissioners of Blount county to build a courthouse.

Buena Vista, Va.—The Buena Vista branch of the Southern Building & Loan Association of Knoxville, Tenn., has been reorganized with L. A. Sadler, president; J. E. Fray, secretary, and D. B. Dugger, treasurer.

Buena Vista, Va.—Bragg & McIntosh have contract for the erection of three residences for Mr. Paxton.

Buena Vista, Va.—Church.—The Catholics contemplate building an edifice.

Buena Vista, Va.—Church.—Menefee & Co. have secured contract for building the Baptist church previously reported.

Corpus Christi, Texas—College.—The Methodists contemplate building a college to cost \$10,000. E. H. Ropes can give particulars.

Charleston, W. Va.—Hotel.—The Kanawha City Co. will build a hotel, but have made no arrangements as yet for plans or contract. T. O. M. Davis, secretary, can be addressed for information.

Chattanooga, Tenn.—School Building.—Townsend & Stone have prepared plans for the erection of a school building in the fifth ward to cost \$35,000.

Chattanooga, Tenn.—Church.—The congregation of the African Methodist Episcopal Church will build an edifice to cost about \$15,000.

Chattanooga, Tenn.—Fillmore Gibson and others contemplate erecting a five-story brick or stone building.

Clarendon, Texas—School Building.—The erection of a \$12,000 or \$15,000 school building is proposed.

Columbia, S. C.—A building and loan association is being organized by James Irrell and others.

Corpus Christi, Texas—College.—An additional building to cost about \$20,000 will, it is stated, be erected at the Baylor College.

Covington, Va.—The Baltimore Banking & Building Co. has been organized with Eldridge Packham, Jr., of Baltimore, Md., president, and W. A. Crenshaw, of Richmond, secretary. The capital stock is \$100,000.

Danville, Ky.—Church.—The members of the Methodist Episcopal Church South contemplate building an edifice to cost \$20,000.

Farmersville, Texas.—Opera-house.—The building of an opera-house 50x100 feet is contemplated.

Franklin, Tenn.—Hotel.—The erection of a hotel to cost \$30,000 is proposed.

Fort Worth, Texas.—College.—The Methodists are considering the building of a college to cost not less than \$100,000. W. L. Vaughn, of Dallas, can give information.

Fort Worth, Tex.—The Fort Worth Lcan & Construction Co. is to be reorganized as the Texas Securities & Construction Co. and the capital stock increased from \$200,000 to \$500,000. T. J. Hurley is to be president of the new company.

Fort Worth, Texas—Masonic Temple.—The Masons are reported as to build a six or seven-story Masonic Temple to cost about \$12,000.

Galveston, Texas—Hotel.—The building of a large hotel is proposed.

Georgetown, D. C.—Hotel.—The Gen Echo Hotel, reported elsewhere in this issue as burned, will probably be rebuilt.

Glasgow, Va.—Church.—The Methodists will build a church.

Glasgow, Va.—Eggleson & Bouldin will erect a three-story brick building.

Harriman, Tenn.—Warehouse.—C. B. Sevier, of Kingsport, intends building a warehouse.

Hempstead, Texas.—F. W. Zadow contemplates erecting a two-story brick building.

Hempstead, Texas—Opera house.—Thomas Rankin is reported as to build an opera house.

Hot Springs, Ark.—Hotel.—The Gulphia Land & Improvement Co. mentioned elsewhere in this issue, contemplates building a hotel.

Huntington, W. Va.—The J. B. Legg Architectural Co., of St. Louis, Mo., has prepared plans for the building of a three-story hall and store 30x75 feet for G. A. Flodrig, to cost \$20,000.

Iron Gate, Va.—Church.—Mr. Campbell, of Raphine, has secured contract for the erection of a church for the Presbyterians.

Ironton (P. O. Clifton Forge), Va.—Hotel.—The Ironton Mining & Improvement Co., referred to in our Construction Department, proposes building a hotel.

Ivanhoe, Va.—Hotel.—M. Daniel & Stone, of Chattanooga, Tenn., have contract for building the hotel for the Ivanhoe Land & Improvement Co., previously reported.

Jellico, Tenn.—Opera-house.—Contract has, it is reported, been let for the building of a four-story opera-house to cost \$60,000.

Laurens, S. C.—Church.—The Presbyterians will build the church mentioned last week at an estimated cost of from \$12,000 to \$14,000, as stated. J. O. C. Fleming can give particulars.

Little Rock, Ark.—J. P. Steen and O. P. Robinson each contemplate building residences.

Lynchburg, Va.—The West Lynchburg Land Co. has, it is stated, ordered the building of 100 houses to cost \$1,000 each.

Lynchburg, Va.—J. D. Langhorne and associates contemplate, it is stated, organizing a company for the purpose of building houses.

Marietta, S. C.—The South Carolina State Teachers' Association is to be incorporated by D. B. Johnson, H. P. Archer, of Charleston; J. F. Brown, of Newberry, and others for the purpose of building a teachers' home.

Middlesborough, Ky.—Hospital.—Dr. Kenyon intends erecting a hospital building to cost about \$5,000.

Middlesborough, Ky.—Depot.—The Louisville & Nashville Railroad Co. (office, Louisville) is reported as to enlarge its freight depot at an estimated cost of \$8,000.

Middlesborough, Ky.—The Middlesborough Land & Improvement Co. will erect a three-story brick building; T. S. Buchanan, a three-story brick building 26x85 feet; A. A. Arthur, a three-story brick building, and Osley & Long, a building to cost \$6,000.

Nashville, Tenn.—A \$5,000 building will be erected for the Improved Order of Red Men and the Knights of Honor.

New Orleans, La.—Depot.—The Illinois Central Railroad Co. (office, Chicago, Ill.) contemplates building a depot.

Parkersburg, W. Va.—Dr. S. A. Stone will erect a residence, and A. Smith a brick building.

Philadelphia, Tenn.—McCrory & Berry will erect a brick building.

Piedmont, Ala.—Hotel.—Contract is reported as let for the building of a hotel to cost \$40,000. The Piedmont Land & Improvement Co. can give particulars.

Piedmont, Ala.—It is reported that 150 houses will be built. The Piedmont Land & Improvement Co. can give particulars.

Richmond, Va.—The Levy Building referred to last week is owned by J. B. Pace, who will remodel it, as stated, at an estimated cost of \$10,000.

Savernake (Buena Vista P. O.), Va.—A company is reported as organized to build houses.

Shenandoah Junction, W. Va.—The Antietam Manufacturing & Land Improvement Co., mentioned elsewhere in this issue, expects to build a hotel.

Tredegar (P. O. Jacksonville), Ala.—Opera-house, etc.—It is stated that plans have been prepared for the erection of a number of buildings, including an opera-house, Masonic Temple, office building, bank building and a warehouse; also that the building of 20 dwellings will soon be commenced. The Jacksonville Mining & Manufacturing Co. can give particulars.

Vernon, Tex.—Church.—The Presbyterians have let contract for the erection of a church.

Washington, D. C.—Hall.—Charles Moore will build a three-story brick hall to cost \$7,000.

Washington, D. C.—Rudolph Kaufman will erect a three-story residence, to have electric lights and steam heating, and A. F. Lemmer, a four-story brick dwelling to cost \$6,000.

Washington, D. C.—Warehouse.—Leon Denes has prepared plans for the building of a four-story warehouse or J. A. Baker to cost \$21,000.

Washington, Ga.—Jail.—The building of a jail by Wilkes county is contemplated.

Way Cross, Ga.—Church—Rowbotham & Murphy have prepared plans for building a church 88x42 feet for the Baptists.

Yorkville, S. C.—Hotel.—W. Adickes will probably remodel his brick block into a hotel.

The Buena Vista Steel Plant.

BUENA VISTA, VA., Dec. 1, 1890.

Editor Manufacturers' Record:

It has been briefly mentioned before that plans had been completed for the speedy construction of the great basic steel works. It is now announced that the stock subscriptions will be called in at 10 per cent. monthly assessments, and that a general manager has been secured from Carnegie's works at Pittsburgh, who will take charge and let contracts for material and machinery. The engineer has already completed his plans and drawings, so that we may soon see work commenced on the foundations, &c.

A contract has been closed for a large muck-bar rolling mill to have 24 puddling furnaces and to turn out 54 tons of bar iron per day. Monthly pay-roll will be \$20,000.

The number of important industries secured for Buena Vista, with the large number of hands to be employed, calls attention to the great need of our city in the way of dwellings for this army and their families. A large number of houses will certainly be needed in the next twelve months.

To Visit California and the Far West via Pennsylvania Railroad Company.

Possibly no new feature ever inaugurated by the Pennsylvania Railroad Company has attracted such universal comment and attention as the series of tours it has announced to run early in 1891 to the far Pacific Coast. Each tour will be limited to one hundred passengers, who will travel in a Pullman vestibule train, furnished with the luxurious appointments of the richest home, with ladies' maid, stenographer and typewriter, library, bath and barber, and smoking and library rooms, and an observation car; in truth, an exact reproduction of the famous Pennsylvania Limited. The first tour leaves New York February 7th, and speeds directly to the scene of the famous Mardi Gras at New Orleans, and then out to Southern California, and directly north to San Francisco, where the unrestricted liberty of three whole weeks is allowed, after which they join the special train for their homeward-bound trip via Salt Lake City, Colorado Springs, Denver, Omaha and Chicago. In the selection of its tourist agents and chaperons this company has chosen them with a special view to their fitness and whatever tends to the tourist's comfort or interest is assured by their presence. No such opportunity has ever before been presented to the people of the East of thoroughly seeing the vast domain of the country they so valiantly boast of, and at such a beautiful season of the year. The rate for the round trip of this first tour is but \$275, which includes not only all necessary traveling expenses to San Francisco and return, but side trips to the most attractive resorts in California, meals en route, and several carriage and stage rides of interest. Names are now being registered for each of the tours, and applications for Pullman accommodations and itineraries should be made to Mr. Geo. W. Boyd, Assistant General Passenger Agent, 233 South Fourth street, Philadelphia.

FROM TREDEGAR, ALA.

A Letter Which Tells of a Possum Hunt and the Solid Growth of a Town.

[Special Cor. MANUFACTURERS' RECORD.]
TREDEGAR, CALHOUN CO., ALA.,
(PRESENT P. O. JACKSONVILLE),
November 30, 1890.

It is so long since I have written anything for the press that I am afraid the dear public, for whom I used to ride over rugged mountain steeps and crack rocks with my little hammer, will begin to think me no longer a man of letters. I should dislike this, because it is not pleasant to be forgotten when one has a barrel full of things he wants the same public to feel interested in.

Last February I had the temerity to announce that I had discovered the *ideal* of a site for an industrial town. That was nine months ago, and the town in question is rapidly assuming the shape that fond imagination then pictured. The change from the quiet of a peaceful country place to the rush and bustle of a live Alabama city in course of rapid construction within so short a time is difficult of realization. But here it is to be seen with the human eye, and a sight worth looking at.

It is a two-sided picture, each presentment perfect in its way. On the one hand, there is the bustle and hammer and saw, dynamite blast and music of pick and shovel. On the other we observe, "if you will give me your attention my little dears," the lovely autumnal atmosphere, skies, sun, moon and stars, the merry out-door sports of the season, the shooting, possum hunting, fox hunting and all the other things that go to make life wholesome and jolly for the two months preceding Christmas tide in this peerie's district of the Southern Appalachians. "You pays your money and you takes your choice." As far as concerns this epistle, your first choice will have to be the second head of our subject, because it is fresh and breezy, redolent of the aroma of pines and cedars tempered by the incense of myriad forest fires of dry leaves, burning nightly on the mountain sides—bright glowing serpentine fires crawling zigzag up the declivities like lazy streaks of lightning, and vivid enough to reflect a faint rosy blush of annoyance upon the face of Madame Luna, who has been very full of late and beaming her silveriest upon our hills and champaign.

Ah, the glory of these November mornings, when the sun is just peeping over the mountain tops, and the hoar frost still lingers on the grass. He is wise who gets him to horse before old Sol is in full view. To him is the joyous intoxication of a gallop through the crisp early air that Aurora loves. The blood fairly sparkles in one's veins and tingles like the effervescence of soda water in the proboscis of the small boy! You should eat a Tredegar inn breakfast after such a dash, and know what Tredegar appetites are when supported and sustained by Tredegar life in the open.

Who that is born of woman hath not heard the beautiful nursery hymn, the first stanza of which begins: "Possums are ripe; possums are ripe, O give the baby some." Never in the wild and all untutored imagination of infancy were possums riper or fatter, or heavier and juicier to the pound, than in this fruitful and happy year 1890. A great many of them would weigh as much as a ton, but the small sized ones are sweetest. There are poor, benighted people who never went possum hunting; who never yet enjoyed the acquaintance, not to say friendship, of a first-class possum dog. I know not his ancient pedigree, and as to appearance he varies. The favorite color is yellow, like that of many of our most successful human possum hunters. But though he may not

claim the noble lineage of the King Charles, the pug or the St. Bernard, he is a mighty hunter and his tribe increases just like the tribes of kings, princes and potentates. I pity the lonesome Northern brother who has not taken part and lot in a possum hunt on one of these superb moonlit nights in the Tredegar mountains. Perhaps I may be permitted to use up a paragraph or two in describing one in which a distinguished party, including the writer, took part the other night.

Early in the day Henry, erstwhile my companion in the Exploring Expedition of last year, came along with the startling announcement that a huge pair of fat possums had been discovered far up the giddy heights of Chimney mountain. He had to be cautioned to keep quiet on the matter, as, otherwise, the whole camp might have turned out and scared the beauties to the extent of making them meat too tough to eat. It only took a few minutes to organize a party of a dozen gentlemen, mostly farmers and others belonging to the learned professions, bankers and merchants, all I believe, members, also, of the County Hunt, the Gun Club, the Whist Club (one dollar ante and five to come in), and all the other organizations in town, including the hook and ladder company, the city council and Farmers' Alliance.

The moon was not well up until ten o'clock, but it was not long after when there were proceedings around the carriage entrance of the Tredegar Inn. Silken coated thoroughbreds were pawing the cool earth. The musical voices of the dusky grooms made melody mixed with other music of the expectant possum hounds, who bayed the moon and disobeyed the profane requests of their biped companions to shut up. People inside the Inn who wanted to court the drowsy god supposed that a consignment of monkeys and parrots had broken loose, and were enjoying that kind of a time outside.

The plan of campaign was solemnly arranged in the gentleman's parlor, and Captain Dan Marshal, a prominent official, (and a holy terror to evil doers) was unanimously elected captain of the hunt. Lawyer Farmer presented a handsome Jersey horn to the party, to be sounded on the occasion. By agreement every gentleman carried his own bait. The General tooted "boots and saddle" just as he was wont to do in days of carnage, and in a few minutes the whole cavalcade went clattering out of the court-yard; horses neighing, horn blowing, dogs yelping, whippers-in cussing, small boys screaming, while guests of the hotel threw a miscellaneous assortment of things out of the windows at the retreating sportsmen, by way of wishing them good luck and good night, of course.

Straight away to the hills our leader, Captain Dan, pointed his nose, and then the race began. We dashed noisily through New Liberia, the aristocratic Senegambian suburb of Tredegar, waking its peaceful inhabitants to terror of hoodooed sprites coming to haunt the dusky denizens of the settlement. Then we pitched like one of Jo Wheeler's cavalry charges down the valley that separates the town from the Blue mountains. The effulgent orb showed us where the manganese test pits were, and over them went the outfit, only one sted in the bunch refusing.

As we disappeared in the dense pine jungle beyond, Mr. Leggett Walter, its rider, could be heard in voluble expression of his views concerning mules in general. He was in at the death just the same. The road now led up the western escarpment of the hills, and the *mise en scène* was something to be remembered. Here and there could be seen patches of fire in the woods, their reflection casting a subdued red glow over the faces of the rough riders, while the moonlight made weird shadows through the dense woods. Fast riding became impracticable, and, besides, the possum hounds were giving tongue.

Now we were ambling easily through the thick cover. The distant courthouse clock struck eleven, a few cocks could be heard faintly crowing in town, and Mr. Leggett Walter's thoroughbred cheerily answered a far-off "hi-hau" from one of his male relatives. We passed a grove of chestnut oaks, which, as the General remarked, were "all ferruginous," and were halted in an opening close to the habitat of the game. Most of us dismounted to examine saddle girths and all prudently picked the flints of their bait boxes to see that everything was ready and loaded for the final rush. Senator Lee and Lawyer Farmer fell into a heated discussion of the genesis of the possum, the Senator insisting that he is a ruminant, while the distinguished agricultural counsel maintained that he belongs to the rutabaga family. The General, Mr. Sisters, Mr. Walter and the writer had scarcely concluded an acrimonious debate on the respective merits of Lincoln, Robertson, Nelson and Mongahela bait when the hounds were in full cry and a fiendish yell from a huge bull possum sent us to horse in short order. Then there was "racing and chasing on netherly lea," the scent leading us to a giant hollow tree with a large hole in it five feet from the ground. We rode up singly and peered into the orifice, not for any particular reason other than that a hunt without the "view hollow" would be unconventional. As a matter of fact the fruit is high up at this season, and gets higher as it ripens in the rime frost of these sharp nights.

Clear as a bell sounds the cow horn. The martial voice of the leader shouts the news that the whole flock of game has been located high up a lordly gum tree, and excitement runs riot. A short rush and we are under the tree. Far up among the topmost branches the brown writhing forms of a dozen angry, snarling possums stand out in vivid silhouettes against the silver light. The dogs are yelling with anticipation and delight. Wild cavaliers are shaking their packages of bait menacingly at the quadrumanous victims of the quest, and Captain Dan deploys his skirmishers to hold the ground against possibility of escape. Now is the time when the heart of a tyro in possum hunting will jump like Carmencita. The enclosing circle grows tighter around the tree. We are all dismounted. Grooms hold the horses well outside the ring. Fat pine flambeaux add glow and smoke to the ensemble, and at last the champion possum dog is loosed. He is a noble beast, a yellow brindle. His name is "Sassige." The other dogs tug and strain at their collars, glaring savagely at young George Bunker's beauty from Vermont, because he was favored with the first dab at the birds.

It is as good as a colored festival with the usual amount of razor practice, to witness a well-trained possum dog operate on his quarry. Sassige is an ideal. Looking at his legs you see that he is a bow ideal. Stealthily creeping under the tree and watching that the enraged possums might not heave rocks on him from above, he reached the trunk in safety and his success was greeted with a hearty cheer. The beasts at the top now began to exhibit fear, rapidly turning into panic. One after another they walked out as far on the branches as they dare, trying for a chance to take a harlequin leap into the neighboring oaks, but in a few minutes they recognized the fact that they were hived. Then desperation and madness took the place of a terror which would have been pitiful but for the mouth waterings below occasioned by their royal fatness. Some possums may be fat, but these fully ripened specimens

actually dripped grease. They were too full to hold it. While this has been going on in the upper regions, Sassige has been warily climbing the tree, careful to keep on the dark side of the trunk. Only allowing him to reach the first branches the remaining dogs are loosed, and away they scamper up the smooth bark close at his heels. Then the first fruits of victory fall to the bag of Lawyer Farmer, who has been standing hat and club in hand to catch the shower. Sassige has reached the outpost of the possums on a long straight branch, and a frightened fifty pounds of good, rich adipose curls up and falls upon the uncovered head of the Alliance man. His back is broken as both fall prone to the earth and death follows instantly. Whether it was the possum or the distinguished citizen who suffered, must be left to the author of "The Lady or the Tiger." At this juncture, I looked up and saw that the possums and the dogs were having a season of unusual interest. It was bark, bite, screech, scratch, claw and tumble all around. The scene was Dantesque in its gory gloom. Grooms, horses and mules had approached the foot of the gum to enjoy the sport, and the whole array, biped and quadruped, black, white, grey and grizzle, formed a dense crowd around the butt. Then it just naturally began to rain possums and dogs. Sassige and a black Berkshire setter had hold of the nose and tail, respectively, of a gigantic bull possum, when the tortured animal lost his foothold and the three came thundering down on the hats of the General and the Senator. With a yell of fury these gentlemen made for each other in the dark, each convinced that the other had bit him a lick in despite of the statute in that case made and provided, and they went rolling down the declivity among the loose "dornicks" fighting like anything. Mr. Leggett Walter's mule had been an interested witness of the scrap, until the possum, freeing himself temporarily from his canine assailants, jumped upon the mule's back with terrible and thomascatic hurrah and sunk his talons deep in the animal's flesh. An eldritch snort, and the business extremities of that mule struck out straight and true, taking the Judge midway between the hips and the diaphragm and landing him neat and clean in the branches of a towering paw-paw near by. The Judge was too much knocked out to say anything for some time to come. When he did resuscitate, he made personal remarks reflecting upon Mr. Walter's thoroughbred mule, and said she was only fit for crowbait. Mr. Walter scornfully retorted that his friend was a Judge of Crowbait anyway, and the matter was amicably arranged by the chief of police suggesting something about the calaboose.

While these little exchanges were transpiring, it must not be supposed that the other possums, and dogs and mules and things were idle spectators. As I remarked, there was an electrical discharge of possums and possum dogs from that gum tree from the very beginning of hostilities. Mr. Walter's mule had scarcely vanished with the possum on his back and Sassige and Sooner in full cry behind, when the total biling of critters above dropped in a solid mass, flooring horses, jockeys, gentry and others at one fell swoop, and the whole convention wallowed together amid the dun leaves on the ground, kicking, screaming, howling, swearing, yelping, tearing! Chunks of possum and segments of possum dog, with spurs, boots, teeth and horseshoes went sailing through the air like lost spirits of a witch's Sabbath. No one will ever know how the mess resolved itself once more into its constituent elements. I think the horses were first to recover their intelligence, because, by the time I came from behind a big stump conveniently contiguous they had struggled to their feet and

cut loose for home, tearing through the woods as if a presidential election was after them. Scarcely discernible in the gloom I could see the figure of Mr. Deacon, his white locks drenched with blood and his nigh ear nearly kicked off, sitting on a geological specimen and gazing at the misty horizon through the bottom of his bait receptacle. Mr. Walters resurrected next and was mad because his bait was broken and scattered, and we gathered up the remains of a few attendants and started home. I counted fourteen dead possums on the ground. Captain Dan confiscated these and said that, if sold at public outcry, they might go a little way toward paying our costs in the morning. Weedy and sorry we started for home. It was agreed that we should stop on the way to inter the remainders of the Senator and the General, but, about half a mile off we found them weeping on each other's necks, by a spring, and bathing one another's bruises. After fighting six rounds a-piece, they had reached an explanation and recognized the error of their ways. Then each had been the first to express his regret at the occurrence. The whole party stopped long enough at the spring to drench their wounds, and then homeward plodded their weary way. There are dead horses and mules, bits of dog and possum, mutilated sets of false teeth, a wig or two, and hair of any color you like distributed generally over the path of the cyclone. Next morning twelve decorous and prominent gentlemen were very busy explaining how, in handling the crank of the dynamo at the proposed electric-light works, it flew up and kicked them in the eye. We were all up before the judge for trespass on the burgomaster's possum farm, which had been properly "posted." He assessed liberal fines all around, including the court, but wisely remitted one of them after the boys had gone out of the court room. Captain Dan says it was the most successful possum hunt of the season, and he has enough possum meat and skins to sell to fit up an African barbecue. Merry nights like these give one vigor and energy for business. Grey and red foxes are both nearly ready to pluck, and we are to have a go at them shortly. But tracking foxes is really nothing to a real, genuine possum fight. Most of the dogs and several horses and mules were killed, to be sure, and several attendants are supposed to have shared their fate, but nobody was hurt worth mentioning and the pleasant memories of the inspiring hunt will never be forgotten while rheumatism shall last.

A truce to this idlesse. We are oblivious to all such petty detail of mere sport while the development of Tredegar is going on faster than a dog after a snake. Ages ago it was remarked that Tredegar enjoyed the possession of the finest building stone quarries in the State of Alabama. The importance of this resource is more than local, since Alabama has not many localities where first-class building material is to be had conveniently. We have one great deposit of sandstone, in appearance and structure much like the brown sandstone so generally used in New York architecture. This material lies about half a mile west of the steel plant site, and the steel company is using the rock for foundations. It will stand a crush of 25,000 pounds to the square inch, and is *par excellence* the best thing of the kind for a hundred miles around. The steel company is opening the quarry on an extended scale, and a permanent tramway is now under construction. It will be finished within a couple of weeks, by which time it is probable that the earth work on the plant will be far enough advanced to begin the laying of the foundations. This branch of the construction will demand something like 20,000 cubic yards of stone, and there may be as much more used otherwise. It is intended to make the quarry a commercial

plant of magnitude after sufficient stone has been raised to serve the needs of the steel plant. We have an excellent shipping demand for such material in all directions, as the Tredegar sandstone will fill a want never filled heretofore. Much cheaper than granite and equally desirable for all architectural purposes, it will command markets everywhere in this and adjoining States. The tramway crosses the E. T., V. & G. Railway within yard limits, thus assuring convenient and economical delivery. It will form a part of the general tramway system of the place, which will consist of a series of tram feeders to the trunk lines, reaching out in all directions to the iron, manganese, bauxite and baryta mines and to the sandstone and limestone quarries, lime-kilns, gravel pits, and so on.

Active work on the steel plant is bringing in crowds of working people, who are finding steady employment, and are being accommodated as fast as houses can be put up. The company is using all the material it can assemble in this direction, while a number of outside capitalists are pushing the erection of comfortable cottages convenient to the various plants and the street improvement work. This week will witness the commencement of twenty such houses in one place, and by another week probably fifty more will be started if lumber can be laid down in time. The local lumber stock is more than spoken for, and a little delay is being experienced as to outside supply, owing to the crowded state of the freight traffic on the railways leading to Tredegar. Our development has happened so suddenly that we are taxing the facilities of our railway friends to the utmost, but relief will be soon at hand, as large lots of new cars are to be delivered to our trunk lines shortly. All kinds of necessary material are being assembled here for the steel plant. The chief contractor here is working day and night to perfect the organization of his enormous work, while the constructing engineer has been East for several days contracting for skilled labor and machinery for several small plants which must be started immediately to furnish a number of things requisite to the construction of so large an institution as the steel plant. The limestone quarries will be connected with the site by a tramway, large lime-kilns will be erected, and, like the sandstone quarries, these will be established to become a commercial plant when the present service shall be completed.

One of the two large brick plants is in successful operation, and is turning out 25,000 bricks per day. As soon as the business can be organized the output is to be increased to 50,000 per day. It is expected that the Eastern brick plant will be started before Christmas, and this one is planned to furnish 100,000 bricks per day. At this moment there is a local demand, outside of the plants, for 2,000,000 bricks, and several more first-class brick concerns could find a market for all they could produce for the next three years. Such is the superiority of Tredegar clays that other towns in this and neighboring States could probably be depended upon to take many millions a year for an indefinite time, as unexceptionable clays are by no means plentiful as a rule in the surrounding districts.

Among the new business enterprises of the week, a very extensive warehouse has been projected to supply local merchants with facilities for bringing in supplies in strictly car-load lots and housing them until needed. Work on these buildings will begin as soon as bricks can be delivered. Eastern people have organized a large builders' supply station, where a full stock of everything required in building will be kept. We have several houses already engaged in the business, but the demand is so pressing that two or three additional concerns of extensive character and large capital are

needed. The ice factory and cold-storage plant, work upon which is to begin soon, it is understood, is to be extended by a combination with the gentlemen proposing the electric-light plant, so that the two institutions can be run under a single management. The organization of the cotton mill company is progressing actively, and an Eastern letter to the writer gives promise that ground can be broken for it by the middle of February. It is reported that New York capitalists have taken hold of the short line of railway between Tredegar and Anniston, and that the pluck and enterprise of the Tredegar gentlemen who have pushed this project under often discouraging circumstances are about to be crowned with success. Plans have been made for a large number of new business blocks, including a new bank building, offices for the land company, an opera-house, and a Masonic temple. These will be showing up within the coming weeks, and the same would be true of the big Tredegar Arms Hotel, but that it will probably be well into March or even April before the brick can be made available, in view of the more pressing demands in other directions. The handsome Tredegar Inn can probably be made to accommodate most of the travel for the present at least, and the work on the other new hotel will therefore be made a spring feature.

The Mining & Manufacturing Co. is straining its forces and facilities to complete the system of beautiful avenues and streets projected last spring. Several of them are already paved, guttered and sidewalked, and a number more are nearly ready for the pavers. Tredegar is peculiarly fortunate in having an inexhaustible supply of the finest paving material in America in the form of a mountain of partially decomposed aluminous chert. When spread upon a street surface it is loose and not unlike well-broken macadam. It is then crushed with heavy rollers, when it forms a compact mass which the first rain reduces to the homogeneity of an asphalt pavement. It concretes at once when wet and is afterward impervious to water. It makes an avenue of snowy whiteness, and the new streets of Tredegar are the admiration of every visitor. I am not sure that a large shipping business could be built up on the basis of this material. It is the best and the cheapest pavement that a Southern city could possibly use. The new cotton-seed oil mill, ginnery and fertilizer factories are doing a handsome business. Cotton is coming in rather more freely and merchants are complaining of an excellent trade. The planing mills, lumber mills, tannery and all the other departments of this active camp are in full blast and happy. Half a dozen Northern plants are in negotiation with the land company for speedy removal to Tredegar. There is a strong and steady demand for real estate at advanced and advancing prices, and outside operators have been and are making money fast. The present policy of the Mining & Manufacturing Company is to not press property on the market, as it is palpable that the progress of the huge and varied improvements now under way will justify much higher values all around within a few weeks. Meantime there is an atmosphere of enterprise and confidence very pleasant to behold; money never was so plenty in this section, and all classes never so prosperous or contented. The Tredegar National Bank shows largely increased deposits, and has all the business it wants, and of the best and safest kind. I am well and happy too.

GOLDSMITH BERNARD WEST.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises and needing machinery or supplies of any kind will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

MACHINERY WANTED.

Boiler and Engine.—The Staunton Steam Roller Mill Co., Staunton, Va., will want a 100 horse-power engine and a 150 horse-power boiler.

Boiler and Engine.—The Johnson City Brick Works, Johnson City, Tenn., will want a 50 horse-power boiler and engine.

Boiler and Engine.—G. W. Duke, Lone Grove, Texas, will need a boiler and engine.

Bolt Cutter.—The Cleland Machine Works, Lynchburg, Va., want a bolt cutter.

Box Machinery.—The Greenville Box Factory & Planing Mill, Greenville, Tenn., will want box machinery.

Brick Machinery.—The Kanawha City Co., Charleston, W. Va., wants brick machinery.

Brick Machinery.—The Johnson City Brick Works, Johnson City, Tenn., will need brick machinery.

Cable and Electrical Railroads.—C. D. Robow, secretary of the North Carolina Steel & Iron Co., Greensboro, N. C., wants estimates for the construction of a cable and an electrical railroad.

Corn Mill.—J. H. Burgess, Ramseur, N. C., wants prices on a corn mill.

Corn Mill.—The Staunton Steam Roller Mill Co., Staunton, Va., will need a corn mill.

Cotton Gin.—J. T. Wyatt, Salisbury, N. C., wants a cotton gin.

Cotton Gin.—G. W. Duke, Lone Grove, Texas, will need a cotton gin.

Crusher.—W. F. Clark, Morrisville, N. C., will probably want a gold ore crusher.

Electric-light Plant.—Levy & Davis, Richmond, Va., want estimates on electric-light plant for from 30 to 50 arc and a few incandescent lights.

Engine.—J. T. Wyatt, Salisbury, N. C., wants an engine.

Fertilizing Machinery.—A. B. Lightner, president, Staunton, Va., will purchase fertilizing machinery.

Grist Mill.—G. W. Duke, Lone Grove, Texas, will need a grist mill.

Iron Furnace.—J. E. Loyd, general manager Ironon Mining & Improvement Co., Clifton Forge, Va., will receive estimates for the construction of a 50-ton iron furnace.

Lath Mill.—P. W. Scott, New Castle, Va., wants prices on lath mill.

Laundry Machinery.—E. S. Calvert, Basic City, Va., wants prices on laundry machinery.

Milling Machine.—The C'land Machine Works, Lynchburg, Va., wants a universal milling machine.

Printing Presses.—The Chattanooga Medicine Co., Chattanooga, Tenn., will purchase printing presses.

Printing Presses.—S. C. Schwing, Brushy Landing, La., wants catalogues of printing presses.

Pump.—W. F. Clark, Morrisville, N. C., will probably want a mining pump.

Pumps.—J. C. Welch, Uniontown, Ala., will want pumps for water works.

Saw Mill.—P. W. Scott, New Castle, Va., wants prices on log sawing mill.

Sewer Pipe.—J. L. Ludlow, Winston, N. C., will receive proposals until December 22 for furnishing about four miles of sewer pipe 6 to 12 inches diameter, and fittings for same.

Shaper.—J. H. Day & Co., Cincinnati, Ohio, want a second-hand 15 inch shaper.

Stand-pipe.—J. C. Welch, Uniontown, Ala., will want a stand-pipe 15x80 feet.

Stave Mill.—P. W. Scott, New Castle, Va., wants prices on stave mill.

Tiling.—S. A. Tomlinson, Fort Worth, Texas, will purchase about 8,000 feet marble tiling 12x12 inches, in two colors.

Woodworking Machinery.—W. S. Mercers Narrows, Va., wants a planer and matcher.

Woolen Mill.—Stephens Bros., Greeneville, Tenn., will purchase a woolen mill outfit.

Baltimore Stock Exchange Quotations.

Reported by ALEXANDER BROWN & SONS, BROKERS, Baltimore.

BALTIMORE, December 3, 1890.

	BID ASKED
U. S. 4½% C.	121 1/2
Virginia 3%, new	64 1/2
Virginia Consol Coupons, N. F.	12 1/2
Virginia 10-40 Coupons	28
N. Carolina 4%	90
N. Carolina 6%	125
Norfolk Water 8% C.	126
Wil. Col. & Aug.	106
Ga. Car. & N. 5%	101 1/2
Wil. Col. & Aug. 6%	115
Atlanta & Char. 1st 7 1/2%	119
Atlanta & Char. Income 6%	114
Col. & Green, 2d 6%	106
Va. Midland, 1st 6%	113
Va. Midland, 2d 6%	113
Va. Midland, 5th 6%	113
Charlotte, C. & Aug. 1st 7 1/2%	116
Charlotte, C. & Aug. 2d 7 1/2%	116
West Va. Central 1st 6%	109 1/2
Ga. Pacific 1st 6%	110 1/2
Ga. Pacific 2d	68
West. Nor. Car. Consol'd 6% Gold	99 1/2
Cape Fear & Y. Valley 6% C.	100
Cape Fear & Y. Valley 6% C.	100
Consol'd Gas Stock	45 1/2
Consol'd Gas Bonds 6%	115
Canton Co.	50

Hercules Ice Machines

FOR

Ice Making, Cold Storage, Packing Houses, Breweries, &c.

Send for our new illustrated circular.

Hercules Iron Works,

Chicago, Ill.

FIRE! FIRE!! FIRE!!!

On November 6 the manufacturing part of our works was almost totally destroyed by fire. The unprecedentedly heavy trade for the entire season found us short on stock and long on orders. Fortunately we had already purchased a site commensurate with the demands for Nubian at Cragin, a Chicago suburb, to which we anticipated moving in a few months. Our fire will simply expedite this removal. We have a full force at work, and expect by November 15 to 20 to commence filling orders. In the meantime we beg our customers to have a little patience. We will divide up what stock we have, so as to give everybody a little. Thanking you for past favors and assuring you we will endeavor to merit a continuance, we are,

Very truly,

THE NUBIAN IRON ENAMEL CO.

168 Sangamon St., Chicago.

Collins Supply Agency, Louisville, Ky.

THE FRED. W. WOLF COMPANY,

Sole American Manufacturers of

The Linde Ice & Refrigerating Machinery.

FACTORY:

302 to 330 HATHORN AVE.,

556 to 566 N. HALSTED ST.

CHICAGO, ILL.

Brewery Work and Cold Storage our Specialty.

Plans and Estimates Promptly Furnished.

**RAEDER, COFFIN & CROCKER,
ARCHITECTS**

Rooms 916-919, 218 Lasalle Street, Chicago,

Special Designers of Industrial Plants.

Completely Equipped Shops, Foundries, Warehouses, Cotton
and Woolen Mills, Grain Elevators, &c.

HENRY RAEDER, Architect; A. S. COFFIN, B. S. CROCKER, Engineers.

**O. R. MAKEPEACE & CO.
ARCHITECTS and MIL ENGINEERS**

PROVIDENCE, R. I. Plans, Specifications and Estimates furnished for Cotton and Woolen Mills.

**THE BROUGHTON
MIXER**
FOR
Wall Plaster and Fertilizers.
MANUFACTURED BY
W. D. DUNNING,
96 W. Water St., Syracuse, N.Y.
SEND FOR CIRCULAR.**The Boomer & Boschert
HYDRAULIC
PRESS**
FOR BALING
Cloth, Paper, Yarn, &c.
Or for any other purpose requiring great pressure.
BOOMER & BOSCHERT PRESS CO.,
329 W. Water St., Syracuse, N.Y.**DREW, BALDWIN & CO.**
COTTON MILLArchitects and Engineers,
45 Broadway, New York.**CONTRACTORS**

This Machine Moves Dirt 2 Cents Per Yard.


PRICE ONLY \$250. For particulars write to
The Southern Equipment Co.
CHATTANOOGA, TENN.**LOCKWOOD, GREENE & CO.
Mill Architects and Engineers,**
131 Devonshire Street, Boston, Mass.

—SPECIALTY—

Plans, Specifications and Superintendence for the Construction, Equipment and Organization of Cotton, Woolen, Worsted and other Textile Mills.

**GRAY & FITCH,
MILL ARCHITECTS & ENGINEERS,**
204 Essex Street, Lawrence, Mass.

Plans executed for the best modern mill construction. Special attention given to arrangements of power plants, shafting, etc.

**Nier, Hartford & Mitchell,
ENGINEERS,**

Water Works, Sewerage, Electrical Works and Municipal Improvements.

Richardson Block, CHATTANOOGA TENN.

KNOXVILLE, TENN.
Room 10, City Hall. P.O. Box 21.**WRIGHT & WOOD,
Civil & Sanitary Engineers.**
Sewerage, Drainage, Water Supply, Municipal Work, Surveys, Estimates, Specifications, Superintendence. J. C. WRIGHT, C. E.

C. F. Wood, Jun. Am. Soc. C. E., Engineer and Superintendent Knoxville Water Co.

CAR PILE DRIVERS

Extension truck, to drive from one beat to another. 20 ft. long, 9 ft. wide, 9 feet from center. Fitted up with our new-style Nasmyth Steam Pile Hammer.

VULCAN IRON WORKS, CHICAGO.

WANTS.

A COMPANY having been formed in Harriman, Tenn., to operate a Steam Laundry are desirous of securing the services of a PRACTICAL LAUNDRYMAN as Manager on salary. One who would be willing to invest from \$200 to \$300 in company's stock preferred, Address, giving experience and references, HARRIMAN STEAM LAUNDRY COMPANY, Harriman, Roane Co., Tenn.

Business Opportunity.

J. D. PRINGLE, of Pringle, Stephens & Bro., wants a partner with \$5,000 to \$25,000 capital, to manufacture North Carolina pine lumber. He has option of two good locations for a steam saw mill, which have fine shipping facilities, both water and rail. Commission or saw mill men preferred. Address PRINGLE, STEPHENS & BRO., Swansboro, N.C.

B. J. DASHIELL, Jr.

M. Am. Soc. M. E.

CONSULTING AND CONTRACTING ENGINEER,
6 South Street, Baltimore, Md.**CHARLES PAINE & SONS,**
Consulting and Civil Engineers,
71 Broadway, New York City.**RAILROADS.** Preliminary Surveys, Location, Construction, Equipment, Water Supply, Terminal Yards, Signals, Electric Appliances, Improvement of Villages and Estates.**FAVA, NAEFF & CO.**

Architects & Consulting Engineers,

SURVEYORS,

Corcoran Building, WASHINGTON, D.C.

D. D. ROGERS,

Mining and Consulting Engineer.

Examination of the PHOSPHATES of FLORIDA a Specialty.

Established 1873. Marion Block, OCALA, FLA.

JOHN MAG LEOD, M. Am. Soc. C. E.
Consulting & Civil Engineer

3 Courier-Journal Building, Louisville, Ky.

Surveys and Construction of Railroads, Bridges, Deep Foundations and other Engineering works, Plans, specifications and estimates furnished and construction superintended. Examinations and reports made of railroad properties, projected lines, mineral & timberlands. Consultation invited

Edwin F. Partridge, Prest.; Jos. W. Hawley V.-Prest.; H. Bayard Dodge, Sec.; Wm. S. Perot, Jr., Treas.; Jos. S. Keen, Jr., General Manager.

The AMERICAN PIPE MFG. CO.
Phipps' Hydraulic Pipe a Specialty.
Engineers & Contractors for Water Works.

Solicit correspondence from town wishing to build upon franchise plan. Factory, Germantown Junction; Office, Room 24, 1326 Chestnut St., Phila.

STEIN & SCHWARZ,
Complete Blast Furnace Plants.
Acid or Basic Bessemer and Open Hearth Steel Works.

Plans, Specifications, Estimates and Superintendence of Construction. Technical Reports on Machinery and Manufacturing Processes.

323 Walnut Street, Philadelphia, Pa.

OTSEN & WESTENHOFF,
Analytical Consulting Chemists.

Chemical Analysis of Iron Ore, Pig Iron, Steel, Limestone, Coal, Mineral Waters, Fertilizers, &c. Physical Tests of Iron, Steel and other Building Materials and Lubricating and Illuminating Oils, etc. Examination of Mining Properties.

Office and Laboratory, 17 W. Third St., Cincinnati, O.

J. H. PRATT,
ANALYTICAL CHEMIST & MINING ENGINEER

1826 Third Avenue, Birmingham, Ala.

Chemical Investigations, Analyses of Ores, Slags, Coals, Waters, &c. Reports on Mineral Properties, &c. Correspondence solicited.

RATTLE & NYE,
Analytical Chemists,METALLURGISTS,
AND
Mining Engineers,

CLEVELAND, O.

FOR SALE.

One 40 to 50 Horse-Power Second-Hand BALL ENGINE. Good as new.

One 40 to 50 Horse-Power Second-Hand HARRISON'S SAFETY BOILER.

Will be sold at great bargain. We sell, to put in more power.

MARION COTTON MILLS,
MARION, S. C.

PROPOSALS.

UNITED STATES ENGINEER OFFICE.WILMINGTON, N. C., Nov. 6th, 1890.
SEALED PROPOSALS for sheet piling, stone, mattresses, &c., in place in dikes in Winyaw Bay, S. C., are to be received at this office until 12 M. December 15th, 1890. The attention of bidders is specially invited to Acts of Congress, approved 26th February, 1885, and 23d February, 1887, volume 25, page 332, and volume 24, page 414. Statistics at Large. All information furnished by W. H. BIXBY, Captain of Engineers.**UNITED STATES ENGINEER OFFICE.**WILMINGTON, N. C., Nov. 6th, 1890.
SEALED PROPOSALS for dredging in the Cape Fear River at and below Wilmington, N.C., and Lockwood's Folly River, N. C., will be received at this office until 11 A. M., December 15th, 1890. The attention of bidders is specially invited to Acts of Congr as, approved 26th February, 1887, volume 25, page 332, and volume 24, page 411. Statistics at Large. All information furnished by W. H. BIXBY, Captain of Engineers.**SEALED PROPOSALS** will be received at the

Office of the Supervising Architect, Treasury Department, Washington, D. C. until 3 o'clock P. M. on the 18th day of December, 1890, for all the labor and materials required for the approaches to the U. S. Postoffice, &c., building at Brooklyn, N. Y., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Brooklyn, N. Y. Each bid must be accompanied by a certified check for \$100. The Department will reject all bids received after the time herein stated for opening the same, also all bids which do not comply strictly with all the requirements of this invitation. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Approaches to the U. S. Postoffice, &c., building at Brooklyn, N. Y., and addressed to JAS. H. WINDRUM, Supervising Architect. November 28th, 1890.

SEALED PROPOSALS will be received at the

Office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M. on the 2nd day of December, 1890, for all the labor and materials necessary to complete the approaches, filling platform, postoffice lookout, &c., for the U. S. Courthouse and Postoffice building at Pittsburgh, Pa., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the superintendent at Pittsburgh, Pa. Each bid must be accompanied by a certified check for \$100. The Department will reject all bids received after the time herein stated for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the U. S. Courthouse and Postoffice, &c., building at Pittsburgh, Pa., and addressed to JAS. H. WINDRUM, Supervising Architect. November 28th, 1890.

SEALED PROPOSALS will be received at the

Office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M. on the 17th day of December, 1890, for the iron beams, etc., for first floor, basement columns, &c., for the United States Courthouse, Postoffice, &c., building at Detroit, Michigan, in accordance with drawings and specification, copies of which may be had on application at this office or the office of the superintendent at Detroit, Michigan. Each bid must be accompanied by a certified check for \$100. The Department will reject all bids received after the time herein stated for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be enclosed in an envelope, sealed and marked "Proposal for the Iron Beams, etc., for the First Floor and Basement Columns, etc., for the U. S. Courthouse, Postoffice, &c., building at Detroit, Mich., and addressed to JAS. H. WINDRUM, Supervising Architect. November 26th, 1890.

SEALED PROPOSALS will be received at the

Office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M. on the 17th day of December, 1890, for the iron beams, etc., for first floor, basement columns, &c., for the U. S. Courthouse, Postoffice, &c., building at Pittsburgh, Pa., in accordance with drawing and specification, copies of which may be had on application at this office or the office of the superintendent at Pittsburgh, Pa. Each proposal must be accompanied by a certified check for \$100. The Department will reject all bids received after the time herein stated for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be enclosed in envelopes, sealed and marked "Proposal for Concrete Floors for the U. S. Courthouse and Postoffice building at Pittsburgh, Pa., and addressed to JAS. H. WINDRUM, Supervising Architect. November 26th, 1890.

UNITED STATES ENGINEER OFFICE.ST. AUGUSTINE, FLA., Nov. 26, 1890.
Notice is hereby given that on the 27th day of December, 1890, at 12 o'clock noon, standard time, I will sell at Mayport, Fla., for cash, to the highest bidder, the wreckage from the bark "Neva," consisting of about 35 cords (more or less) of log-wood. The log-wood is apparently in good condition. It is in sticks from 4 to 5½ feet long and from 3 inches to 20 inches in diameter. The wood must be removed within 30 days from sale and until removed will be at owner's risk. For further information apply to this office. W. M. BLACK, Captain, Corps of Engs., U. S. A.**COTTON MACHINERY FOR SALE**, made by Bridesburg Manufacturing Co. 4000 spindles, carding, &c., entirely complete and in very good condition. Will be sold at a great bargain for cash. Address "D. W. O.", care Manufacturers' Record, Baltimore, Md.**Textile Machinery**
FOR SALE.

Picking, Carding, Roving, Spinning, Spooling, Twisting, Reeling, Warping, Weaving and Finishing for Cotton and Woolen Mills. Very large stock to select from in our storehouses here, of over two acres of storage.

JEREMIAH CLARK,
Lowell, Mass. Office, 65 Dalton St.

Subscribe to the MANUFACTURERS' RECORD.

FOR SALE.**Railway Equipment.**

If interested send for our Catalogue No. 13, just issued, of Locomotives, Cars, &c., of every description, for all kinds of work.

A. S. MALES & CO.,
15, 16 and 17 Adams Building, Cincinnati, O.

Railway Equipment.
REGINALD CANNING & CO.

118 Broadway, New York.

Have on hand for sale all kinds of SECOND HAND ROLLING STOCK.

Established 1835.

GEORGE PLACE.

Late the George Place Machinery Co.

Equipment of Railway and Car Works

EQUITABLE BUILDING, - NEW YORK

CARLISLE MFG. CO.
Cars, Engines, Frogs
AND SWITCHES,
CARLISLE, PA.**Steam Fire Engines**
FOR SALE.

One Hunneman and one Button in first-class condition. Also all kinds of second-hand Engines and Boilers for sale cheap. For terms, prices, &c., address

Lowell Steam Boiler Works,
LOWELL, MASS.
Estimates given on New Work or
every description.

—FOR SALE.—**A BARGAIN.**

Owing to bad health I will sell one-half interest in Thomasville Variety Works, Planing Mill and Lumber Yard; one-third interest in Thomasville Electric Co. All new, doing fine home and shipping trade. Two railroads now building. Address

W. H. REYNOLDS,
Thomasville, Ga.

SECOND-HAND WOODWORKING MACHINERY FOR SALE.

24-in. 6-Roll Single Surface Planer & Matcher \$275

24-in. "Sweepstakes" Planer, Match. & Moulder 175

24-in. J. A. F. & Co. Double Drum 6-Roll Sander 200

24-in. J. A. F. & Co. Double Drum 6-Roll Sander 275

Colburn 2-Spindle Blindside Boring Machine 35

Band Saw, 38-inch wheels, iron table, 55

No. 2 J. A. F. & Co. Resawing Mach. 22-in. saw 165

No. 6 Sturtevant Pres. Blower, countershaft 85

6x6 Vertical Engine 100

25 h. p. Portable Boiler 200

25 h. p. Tubular Boiler 150

JAMES JENKS,

Dealer in Machinery, 199 Jefferson Avenue,

Detroit, Mich.

FOR SALE.

20-in. swing Engine Lathe, 14-ft. bed.

14-in. swing Engine Lathe, 7-ft. bed.

15-in. Crank Shaper.

24-in. B. G. Drill Press.

Water Grinder.

28 in. x 28 in. x 7 ft. Planer.

All the above are NEW and will be sold at a BARGAIN. Write for our complete catalogue.

THE SEBASTIAN-MAY CO.

182 to 188 Highland Ave., Sidney, Ohio.

Second-Hand Machinery Cheap.

1 8-H.P. Portable Engine and Boiler, on wheels.

1 10-H.P. Portable Engine and Boiler, on skids.

1 No. 1 Universal Grinding Machine, B. & S.

1 No. 2 Universal Grinding Machine, 40 in. bet. centers. Brown & Sharpe.

1 No. 2 Two-Spindle Profiling Machine. Bement.

1 Set 10 in. x 6 ft. Power Bending Rolls.

1 Trip Hammer.

1 No. 7 Root Blower. 1 No. 3 Sturtevant Exhaust.

1 No. 3 Universal Miller. Brainard.

1 No. 2 Lincoln Pattern Miller.

1 No. 1 Plain Miller. Brown & Sharpe.

1 Horizontal Drilling Machine.

1 Set 12 in. x 10 ft. Power Bending Rolls.

Write us for what you want and send description of Machinery that you wish to trade or sell.

THE J. A. MACKINNON MACHINERY CO.

22 Warren Street, New York.

Bargains in Machine Tools.

We have the following Machine Tools, taken mainly in exchange for those of our own manufacture. We will sell them low.

LATHES—Second-hand.

4 1/2-in. x 12 ft. P. & W. Bench Hand Lathes. G. Order.

2 10-in. x 12 ft. P. & W. Bench Hand Lathes. "

1 10-in. x 12 ft. 6 in. P. & W. Bench Turret Lathe. "

1 18-in. x 6 ft. Lathe. Fair Order.

1 20x8 Engine Lathe. Good Order.

1 20x12 Harris Lathe. Fair Order.

1 24x10 Curtis Lathe. Fair Order.

1 26-in. Steven Puley Lathe. Fair Order.

1 40x15 ft. 6 in. Lathe. Not Repaired.

PLANERS—Second-hand.

1 10-in. Traveling Head Shaper. Good Order.

1 10-in. Shaper. Nearly New.

1 24x24 Planer. Good Order.

1 26-in. Geared Shaper, Old Style, L. D. & Co. Good Order.

MISCELLANEOUS—Second-hand.

1 Hendey 3 Spindle Drill Press. Good Order.

1 24-in. Drill Press. Good Order.

3 34-in. Drill Presses. Fair Order.

2 36-in. B. G. Drill Press. Good Order.

1 Standish Foot-Power Hammer. New.

1 Knight Punch and Shear (Comb.). New.

1 12-in. Bement Slotter. Good Order.

1 Natl. Double Head Bolt Cutter. A No. 1 Order.

1 Emery Grinder and Stand. Good Order.

1 No. 1 Sturtevant Noiseless Blower. Good Order.

2 750 lbs. Steam Hammers. (Bement, Miles & Co.) Good Order.

1 Punch, 18-in. throat to punch 1 in. in 1/4 in. iron.

1 No. 1 Order.

1 Write for Prices.

1 New additions constantly made to this list.

1 Complete estimates made on outfitts.

THE LODGE & DAVIS MACHINE TOOL CO.

Cincinnati, Ohio.

Manufacturers of Engine Lathes, Shapers, Upright Drills, etc. Dealers in Iron and Brass Working Machinery.

Western Store 68 & 70 Canal St., Chicago.
Eastern Store, 64 Courtlandt St., New York.

LATHES.

1 20 in. x 12 ft. Gray Lathe.

1 19 in. x 8 ft. New Haven Lathe.

Address THE GORDON STEAM PUMP CO., Hamilton, Ohio.

BARGAINS.—Second-Hand Machinery. Good Condition.

L. F. SEYFERT'S SONS,
Nos. 437, 439, 441 N. Third St., Philadelphia, Pa.

1 180 h.p. Corliss Hor. Engine, cyl. 20x45 in.

1 100 h.p. Horiz. Engine, cyl. 18x36 in. Rickards.

1 75 h.p. Horiz. Engine, cyl. 16x24 in. Rickards.

1 40 h.p. Vertical Engine, cyl. 12x14 in. Naylor.

1 25 h.p. Lidgerwood Hoisting Eng., cyl. 10x12 in. 6, 8, 10, 15 & 20 h.p. Portable Hoisting Engs., single & double cyl. & drum. Combined & single.

1 12 h.p. Agricultural Engine & Boiler on wheels.

1 8 h.p. Agricultural Engine & Boiler on wheels.

1 40 & 50 h.p. Hor. High Speed "Southwark" Aut.

Cut-off Engines. Helve Hammer.

50-in. Tub. Steel Boilers, 4 to 40 h.p. Cheap.

1 50 h.p. R. T. Boiler, 48 in. x 16 ft., 90 lbs press.

1 25 h.p. R. T. Boilers, 42 in. x 10 ft. (28) 3 in. tubes.

1 Planer 36x36 in. x 10 ft. Bement.

1 Planer 33x33 in. x 9 ft. E. & A. Betts.

1 Planer 30x30 in. x 6 ft. Scott Bros.

1 Planer 24x24 in. x 4 ft. Scott Bros.

SECOND-HAND MACHINERY.

1 Iron Pl. planes 8 ft. long, 35 in. x 36 in., 2 hds. Sellers.

1 7 ft. 30 in. x 30 in.

1 8 ft. 30 in. x 30 in.

1 Engine Lathe, 30-ft. bed, 72-in. swing. Good.

1 Engine Lathe, 16-ft. bed, 60-in. swing.

1 Engine Lathe, 10-ft. bed, 20-in. swing. Good.

1 Automatic Gap Lathe, 8-ft. bed, 48-in. swing.

2 Engine Lathes, 8 ft. bed, 18 in. swing.

1 Engine Lathe, 5 feet bed, 15 inch swing.

1 6 ft. 6 in. 18 in. 15 ft. chuck. and various other sizes.

1 Small Turret Head Lathe.

1 24-in. B. G. S. F. Blaisdell Drill. Good.

20 in. Plain Drilling Machine.

1 Bets 50-in. Horizontal Boring Mill.

65 in. Slotter, automatic feed.

1 40-lb. Bradley Cushioned Hammer.

1 Small Power Press.

Send for list Second-hand tools.

NEW YORK MACHINERY DEPOT,
Brooklyn Bridge Store, 16, New York.

Second-Hand MACHINERY in Good Order

FOR SALE CHEAP.

Engine Lathes—62 in. x 17 ft.; 42 in. x 12 ft.; 32 in. x 12 ft.; 29 in. x 15 ft.; 24 in. x 10 ft.; 22 in. x 8 ft., and 12 ft.; 20 in. x 8 ft. and 14 ft.; 15 in. x 6 ft. and 8 ft.

1 each 24 in. x 20 in. and 24 ft.; 24 in. x 12 ft.; 24 in. x 15 and 16 ft.; 18 in. x 10 ft.; 20 in. x 10 ft.; 20 in. x 12 ft.; 1 each 16 in. x 6 ft. and 10 ft.; 6 each 14 in. x 6 ft.; 1 12 in. x 5 ft.; 2 each 11 in. x 4 ft. and 5 ft.; 1 10 in. x 3 1/2 ft., foot power.

1 each Planer, 24 in. x 24 in. x 5 and 8 ft.

1 Planer, 54 in. x 32 in. x 12 ft., 30 in. x 50 in. x 17 ft.

1 Planer, 40 in. x 14 ft.

1 Planer, 42 in. x 42 in. x 10 and 12 ft.

1 Planer, 32 in. x 20 in. x 4 and 5 ft.

1 Planer, 16 in. x 16 in. x 3 ft.

1 Planer, 42 in. x 42 in. x 12 ft., with two heads.

1 Planer, 50 in. x 50 in. x 17 ft., with one head.

1 Planer, 100 in. x 100 in. x 18 ft., with two heads.

1 Engine Lathe, 22x22 ft., good order. Niles.

1 New Horizontal Boring Machine, with facing attachment. Newark Machine Tool Co., makers.

1 24x8x4-foot Planet. Ames.

1 Drop Hammer, 75 pounds.

1 48-in. Radial Drill.

1 Shaper each 6, 10, 12, 15, 20, 24 and 30-in. strike.

3 Crank Planers, 6 Lincoln Pat. No. 2 Millers.

1 Universal Millier. Brown & Sharpe.

1 each 2, 3, 4 and 6 Spindle Gang Drill.

1 each Nos. 1, 3, 4 and 5 Screw Machines.

1 each 40 & 60 pound Vertical Hammers.

1 No. 53 Ferracette Press. 1 Nut-facing Machine.

1 No. 56 Fowler Press.

12 Punching and Shearing Machines, assorted.

2 Return Tubular Boilers, 32 horse-power.

1 Bolt Cutter, each 1/2 in. to 1 in., and 3/4 in. to 2 in.

1 No. 1 Hand Millers. Pratt & Whitney.

1 Horizontal Engine each 25 and 45 horse-power.

1 Horizontal Boring Machine, 36in. x 6 ft.

2 each 8 and 12-inch Slotters. Correspondence solicited.

Also full line of New Machinery.

1 Power Mortising Machine. Solicited.

1 3,000 Spindle Carpet Warp Plant.

1 200 Loom Plant for Osnaburgs, Sheetings, Drill, &c.

1 System Bagging Machinery, capacity

16,000 lbs. per week.

1 Full System of Print Cloth Machinery.

1 Power Mortising Machine. Solicited.

1 160 LOOMS.

1 System 160-loom Plant on Desims and Fancy Shirtings, Chevolets, &c. Newly machined.

1 System of Rabeth Spinning 430 spindles. Fine condition.

8 36-in. Gambell Cards, full roller.

Also a large lot of Miscellaneous Ma

chinery in first-class condition.

PRENTISS TOOL & SUPPLY CO.

P.O. Box 562. 116 Liberty St., New York City.

MANUFACTURERS' RECORD.**THE NEW YORK RAILWAY SUPPLY CO., Limited.**

40 and 42 Wall Street, New York.

Steel Rails and Railway Equipment

of all descriptions, for Cash or on the Car Trust Plan.

COMPLETE OUTFITS FOR ALL CLASSES OF RAILROADS,

Steam, Electric, Horse, Logging, Coal and other Commercial Roads at the lowest market prices

and most favorable terms. Correspondence solicited from all new and old enterprises.

BOILERS, ENGINES,**STEEL RAILS**

And Track Material complete for Logging and Mining Roads and Industrial Enterprises on the

Instalment Plan.</

TRADE NOTES.

THE Richmond Ice Machine Co. has secured two acres of land at Manchester, Va., and awarded contracts for erecting necessary buildings for the manufacture of ice machinery, the works to be completed in about ninety days. The company has a great number of ice-making plants under construction.

THE attention of prospective investors is Southern phosphate properties, as well as owners of such lands who desire to learn the extent and value of the phosphate deposit, is called to the card in another column of D. D. Rogers, Ocala, Fla. Mr. Rogers is a mining and consulting engineer of wide experience in the examination of phosphate fields, and has had parties continually in the field since the discovery of phosphate in Florida.

THE Totten & Hogg Iron & Steel Foundry Co. reports a heavy demand from all parts of the country for the Forster rock and ore breaker, which it manufactures. Recent shipments included one to Japan and a car-load to the Pacific coast; an order has been received for one from Nova Scotia, and negotiations are pro-



PATENT STEAM BOILER FLUE CLEANER.

gressing for supplying parties in Riga, Russia; Berlin, Prussia; Sydney, New South Wales, and others in different localities in South America.

GARLOCK'S SPIRAL PACKING commends itself to the trade because it is practically the same as Garlock's ring packings, and can also be kept in stock. Since the introduction of the Garlock elastic ring and sectional packings to users generally, the manufacturers, the Garlock Packing Co., of Palmyra, N. Y., and Rome, Ga., have become convinced that an article which could be kept in stock by dealers and large concerns would be desirable, and have put upon the market Garlock's spiral packing, which is manufactured of same material and with same process as the ring packings. It is made 12 feet long and in sizes from 3-16 inch to 2 inches. Each strip is coiled in a box made especially for it, so that there is no chance for its getting impregnated with dust or grit, which are so injurious to rods.

THE indications are from some recent developments that the American Midland Railroad (the new trunk line from New York to Chicago) is to be a decided and assured success from the start. The English capitalists who are back of the scheme have decided to build it on the plan of the "Midland" of England—that is, having special reference to speed and an absolutely direct route. It is the intention of the builders of the road to make it possible to attain 75 miles an hour on all parts of the road. And while obtaining so direct a road, they lose nothing in the way of advantage, for it goes directly through the heart of the iron and coal regions of Pennsylvania and through the Hocking valley and coal parts of Ohio and the Western Reserve, gas fields, etc. The possible and probable freight and passenger business between the two important terminal points, the great advantage of a more direct and much shorter road, must apparently insure the success of this new trunk line from the very beginning. Undoubtedly this line will be duly, fully and safely consolidated with the Pennsylvania & Midland Co., thus giving the company an unbroken and perfect line from South Chicago to the

Delaware river at Stroudsburg, Pa. Joel Hayden & Co., the Boston bankers, have complete maps of the surveys, etc., pertaining to the road, and are offering shares of the stock at \$10 per share; par value \$100.

Patent Steam Boiler Flue Cleaner.

The illustration herewith of the Atchison & Doolittle patent steam boiler flue cleaner, manufactured by the Cleveland Flue Cleaner Manufacturing Co., of Cleveland, Ohio, represents an appliance which is meeting with the approval of all users, and is considered one of the most valuable labor and fuel-saving devices that is offered for use in the boiler room. The manufacturers describe its claims for superiority as follows: "The simplicity of its construction and consequent durability. It is always ready, requiring no adjustment but attaching the hose. Always in order, by reason of no wheels, springs, valves or other complications to become deranged. Its construction insuring a spiral motion to its steam jet, which is delivered directly against the face of the tube.

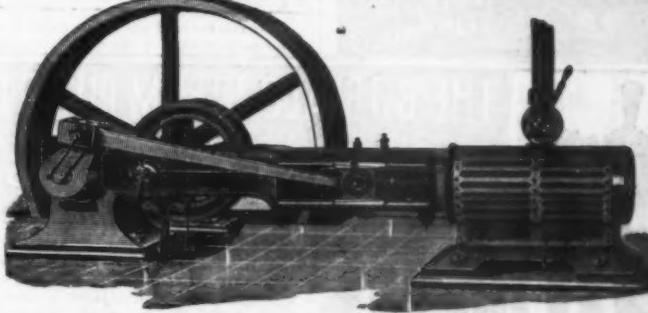
The conical face of the cleaner adjusts itself to the mouth of the tube, making a

E. J. WOOD,
ARCHITECT,
Consulting Engineer & Contractor,

243 BROADWAY,

NEW YORK.

Superintendent of the Construction and Erection of Factories, Steam Plants and all kinds of Machinery. Engines Indicated. Valves Adjusted and Power Measured.

COMPLETE STEAM PLANTS. BOILERS, ENGINES, Every Description.
SHAFTING, PULLEYS, HANGERS.DRAWINGS AND SUPERINTENDENCE. ECONOMY GUARANTEED.
CORRESPONDENCE SOLICITED.

I also make a Specialty of Taking Down, Removing and Restoring Steam Plants and Machinery of every description. Send for Catalogue F.

SECTIONAL
INSULATED AIR
COVERINGSSHIELDS & BROWN CO.
143 Worth St., NEW YORK.

240 and 242 Randolph St., CHICAGO.

Especially adapted for the Elevation of Clear, Gritty, Thick, or Acidulous Liquids, Quickly, Cheaply and Efficiently



THE NEW PULSOMETER STEAM PUMP.

without Engine, Machinery, Oil, Expensive Power, Skilled Labor, or Material Wear. Send for Illustrated Catalogue.

PULSOMETER STEAM PUMP CO., 120 Liberty St., New York.

STEVENS PATENT
Fine Adjusting and Transfer
Inside Caliper, No. 105.Price List, by mail, post-paid.
6 inch..... \$1.10
8 " 1.75
10 " 2.00
12 " 2.25

Ideal and Leader Spring Dividers and Calipers, and Fine Machinists' Tools.

J. STEVENS ARMS & TOOL CO., P. O. Box 215, Chicopee Falls, Mass.

STEVENS PATENT
COMBINATION GAUGE, No. 58Scratch and Depth Gauge combined.
The ent shows this used
as a Depth Gauge. Can
also be used as a Surface
or Scratch Gauge.

Price, per pair, \$2.00

Illustrated catalogue free.

WM. SIMPKIN A. S. M. E.

SIMPKIN & HILLYER,
ENGINEERS & CONTRACTORS
RICHMOND, VA.

E. S. HILLYER, M. E.

Manufacturers of and Agents for Steam Engines, Boilers, Pumps and Heavy Machinery. Economical Steam Plants, Rope and Belt Driving. Special Machinery for Chemical and Fertilizing Works, Gas, Water and Oresotone Works. A specialty of the "Warwick" Pole Road Locomotive, "Warwick" Tram Road Locomotive, and the "Warwick" Silent Steam Street Motor. Castings furnished. Repair work solicited. Consultations, Arbitrations and Valuations. Engines indicated. Plans, Specifications and Estimates prepared. Correspondence invited.

WORKS—Newport News, Va.

GENERAL OFFICE—1105 Main St., Richmond, Va.

SEND ALL REPAIRS TO OUR WORKS.

HERMANN SCHMIDT, President.

R. F. HUDSON, Secretary and Treasurer.

W. SIMPKIN, Vice-President and Gen. Agent.

THE RICHMOND ICE-MACHINE CO.

Manufacturers of the Most Improved

Ice-Making and Refrigerating Machinery

ON THE COMPRESSION PLAN.

We guarantee the proper working of our machinery. All working parts built to gauge, so they can be readily duplicated, and nothing but the very best material used. Specifications and estimates furnished. Correspondence solicited.

P. O. Box 315.

GENERAL OFFICE 1105 MAIN STREET, RICHMOND, VA.

Send for our Pamphlet "How to Make an Ice Factory Pay."

MASLIN'S Patent Steam Pump.

U. S. Pat. 12, & Dec. 3, '79.

Cheapest and Best Automatic Steam Vacuum Pump. Handling DIRTY and GRITTY LIQUIDS without Wear, Oil or Care. Simple, Economical, Efficient & Durable. Pumping Plants for Contractors, Irrigation, Water Works, Railroads, Mining & General Hydraulic Purposes. Write or call for Circular. JOHN MASLIN & SON, Sole MANUF'RS., 125-127 1st St., Jersey City, N. J.

COMPLETE STEAM PUMP

10 SIZES FROM \$7 TO \$75

FOR DRIVE WELLS

PRICES AND
DESCRIPTIONS
CIRCULARSVAN DUZEN & TIFT
SOLE MAKERS.

CINCINNATI, O.



TRADE MARK. A complete outfit. Easy to put up, always reliable and fully warranted to meet the wants of any farmer.

The Best HAY TOOLS

IN THE MARKET.

MYERS' FORCE AND LIFT PUMPS

Simple, durable, powerful, easy to operate never affected by frost. Patent GLASS VALVE will never corrode. Ask your dealer for our goods. Write for catalogue. F. E. MYERS & BRO. NEW YORK.

Subscribe to the Manufacturers' Record price \$4.00 a year, or six months for \$2.00.

DEAN BROS' STEAM PUMP WORKS.

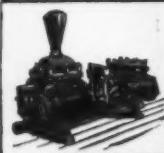
BOILER FEEDER

BREWERS AIR PUMP

FIRE PUMP

DUPLEX PUMP

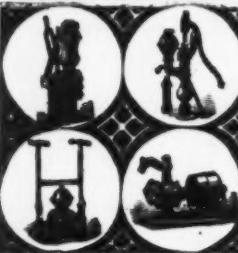
SEND FOR CATALOGUE AND PRICES

INDIANAPOLIS, IND.

THE BUFFALO STEAM PUMP CO.
BUFFALO, N.Y. MANUFACTURERS OF
STEAM PUMPS
FOR ALL DUTIES.

PUMPS

THE JOHN H. McCOWAN CO.
42, 44, 46 Central Ave., CINCINNATI, O. | Branch House, 1425 E. Main St., RICHMOND, VA.



THE DEMING COMPANY,
(Late Silver & Deming Mfg. Co.)
PUMPS
For Hand and Power.
WELL SUPPLIES AND TOOLS,
SALEM, OHIO.

**HYDRAULIC JACKS.**

BEST IMPROVEMENTS. MOST STYLES.

Hydraulic Presses, Hydraulic Pumps, Valves & Fittings,

Hydraulic Transfer Jacks for Removing Locomotive Drivers and Trucks.

LEVER PUNCHES and SHEARS.

WATSON & STILLMAN
204, 206, 208 & 210 E. 43d Street, New York.

**LAWRENCE MACHINE CO.**

MANUFACTURERS OF

Centrifugal Pumps,
STEAM ENGINES,
General Machinery,
PHOS. BRONZE,
And Composition Pumps and
Valves for
Pulp and Paper Mills,
LAWRENCE, MASS.

Send for Catalogue A and Disc'ts.

Barnes' Patent Foot Power Machinery.

Complete outfit for Actual Workshop Business. Lathe for Wood or Metal. Circular Saws, Scroll Saws, Formers, Mortisers, Tenons, Etc., Etc.

Our Patent Velocipede Foot-Power is without question the best yet applied to Lathe. Read a few expressions from those using them: "I do not know how you can ever expect to compete with us." "The velocipede power is simply elegant." "Can turn a whole day and feels little tired as though only walking around." "In regard to the velocipede foot-power, I consider the lathe without an equal." "I sat at the lathe for 11 hours, cutting off and threading 1½" steam pipes. Those who saw it declared it equal to 15 hours job in machine shop." "Using a velocipede, the work can be done much more easily and for less time." "For driving the boutines, the lightest of the heaviest, give me the velocipede foot-power." "The 4½" Lathe is equal to any costing twice the money." "What astonishes me is, how you can make machines to pay you for so small sum of money." "The No. 6 Lathe is the most perfect tool I ever saw for the money." "I can do double the amount of work on my velocipede lathe than I can on my other lathe." "There is no tax on strength, the body is at rest, steady, the hands and attention free for the job." "The velocipede—It is the best foot-power of any for lathes."

If desired, these machines will be sold ON TRIAL. The purchaser can have ample time to test them in his own shop and on the work he wishes them to do. Descriptive Catalogue and Price-List Free. **W. W. & JOHN BARNES CO., No. 1 Ruby St., Rockford, Ill.** THOMAS K. CAREY & BROS., 26 Light St., Baltimore Agents.

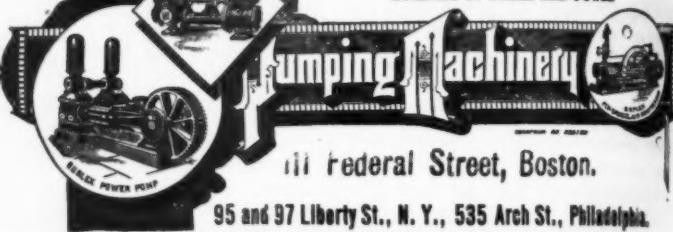
**THE LAIDLAW & DUNN CO.**

PUMPS OF EVERY DESCRIPTION. CINCINNATI, O.

SEND FOR CIRCULAR

**GEO. F. BLAKE MFG. CO.**

BUILDERS OF STEAM AND POWER



111 Federal Street, Boston.

95 and 97 Liberty St., N.Y., 535 Arch St., Philadelphia.

The Baldwinsville Centrifugal Pump.

OLDEST, BEST AND LATEST IMPROVED.

Especially adapted for contractors' use, Pumping Coffers, Sewers, Sand-Pumping, etc.

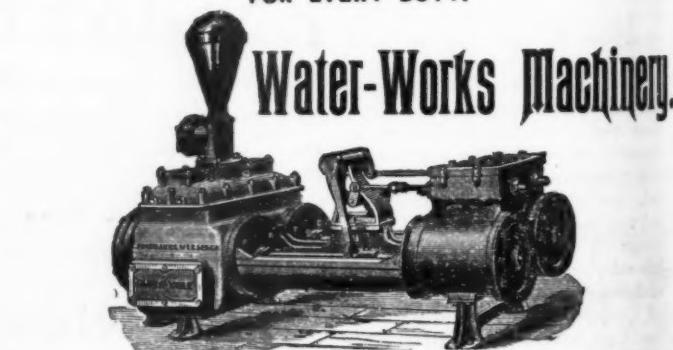
Irrigating Plants a Specialty. Address for catalogue.

IRVIN VAN WIE, 48 & 50 West St., Syracuse, N.Y.

Established 1861. Removed to Syracuse 1881.

Send for Catalogue.

The Improved Smith & Vaile
SINGLE, DUPLEX AND COMPOUND
Steam Pumps
FOR EVERY DUTY.

**The SMITH & VAILE CO.**

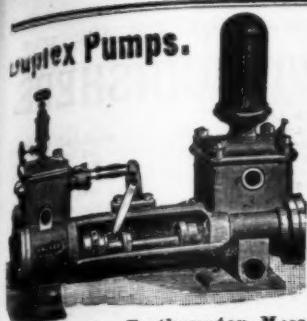
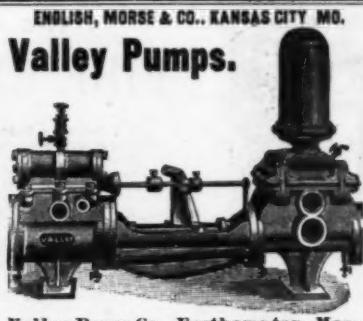
DAYTON, OHIO, and NEW YORK,

118 LIBERTY STREET

EASTERN AND SOUTHERN AGENTS:

THOS. K. CAREY & BROS., 26 Light Street, - - BALTIMORE, MD.
G. W. STORER, 149 North Third Street, - - PHILADELPHIA, PA.
D. A. TOMPKINS CO., - - CHARLOTTE, N.C., and ATLANTA, GA.

is the
subscr
Send

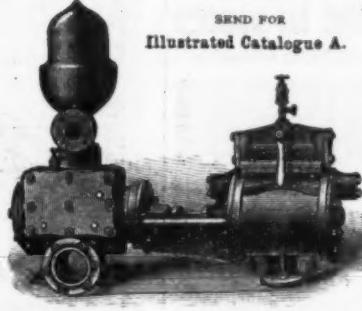
Duplex Pumps.**Valley Pumps.****ACME PUMPS.****BUCKET PLUNGER PUMPS.****A B C PUMP.**

Valley Pump Co., Easthampton, Mass.



PUMPS FOR
BOILER-FEEDING,
MINES,
REFINERIES,
BREWERIES,
TANNERIES,
IRRIGATING,
FIRE PURPOSES,
RAILROADS and
FILLING TANKS,
CRANK and
FLY WHEEL

And VACUUM
PUMPS.

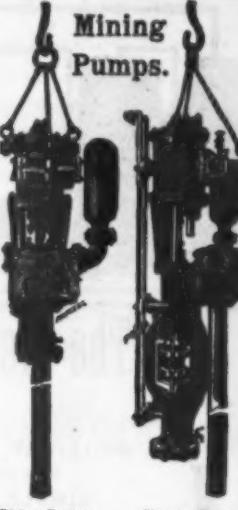


SEND FOR
Illustrated Catalogue A.

SIMPLE,
COMPACT,
DURABLE,
EFFICIENT.

ADAPTED TO
ALL PURPOSES.

NO OUTSIDE
VALVE GEAR.



CAMERON STEAM PUMPS.

The A. S. Cameron Steam Pump Works,

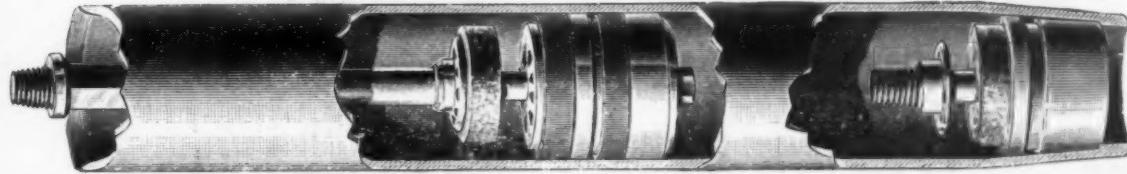
NEW YORK.

Piston Pattern. Plunger Pattern.

COOK WELL CO., ST. LOUIS.

CONTRACTORS FOR

Pure Water Supply for Cities and Towns, Railroad Stations, Breweries, Ice Factories, Manufactories and Mines.



OUR IMPROVED CORNISH MINING PUMPS

Send for Illustrated Catalogue of Full Line of
Well and Pumping Machinery.

CANNOT BE SURPASSED FOR DUTY IN MINES.

CORRESPONDENCE SOLICITED.



THE "WELLS LIGHT."

WALLWORK & WELLS' PATENTS. (Registered Title.)

Powerful Portable Light UP TO 2,000 C. P.

Self Contained. No Outside Motive Used. Complete in Itself, as shown by Accompanying Cut. Simple in Construction. Any Laborer can handle it.

3,000 SOLD LAST SEASON.

UNAFFECTED BY WEATHER.

KEEGAN & HALPIN,

44 & 46 Washington St.,
NEW YORK.

THE MANUFACTURERS' RECORD

is the most thorough, complete and authentic source of information on Southern industrial affairs in existence. The subscription price is only \$4.00 a year. Some of our subscribers think every issue is worth that much. Try it for a year. Send in your subscription to-day. Don't wait until to-morrow; you may forget it.

SAVE GAS. REDUCE BILLS AND SECURE BETTER LIGHT.

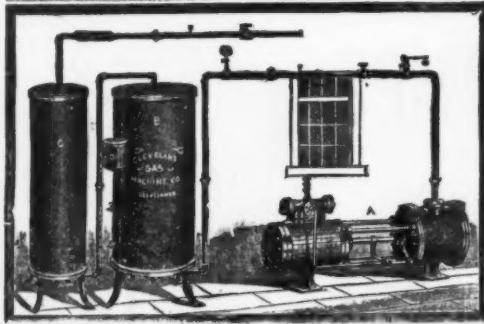
The American Gas Saving Co's Gas Controller.

Over 300,000 in use. Saves from 15 to 50 per cent. according to pressure in mains.

Adopted by U. S. Government after competitive tests; New York Elevated Railroad (saving \$11,519.37 in five months, over \$100,000 in five years). In use in thousands of Mills, Factories, Hotels, Depots, Public Buildings and Private Houses. Send for descriptive circular and testimonials. Find size of meter on brass plate in front with maker's name.

Full directions for attachment and testing sent with each. Controllers sent for trial on receipt of price, and money refunded, less express charges, if unsatisfactory and controllers returned in good order. All orders C. O. D. Agents wanted.

AMERICAN GAS SAVING CO., - - - 35 Broadway, N. Y.



THE CLEVELAND
Gas Machine Co.
176 Central Way, CLEVELAND, O.
MANUFACTURERS OF
IMPROVED GAS MACHINES

For Illuminating and Heating
purposes. Especially adapted for Canning Factories, Mills, Churches and Stores; Country and Suburban Residences, requiring from 20 to 10,000 Lights; also Gas-Soldering and Metal Heating Outfits and Special Machines for Meat Packing Establishments. Correspondence solicited. Send for Illustrated Catalogue.

The New Industrial Light "Lucigen"

BRILLIANT, POWERFUL AND DIFFUSIVE.

Burns Petroleum Oil Sprayed by Compressed Air.

SIMPLE, SAFE AND ECONOMICAL.

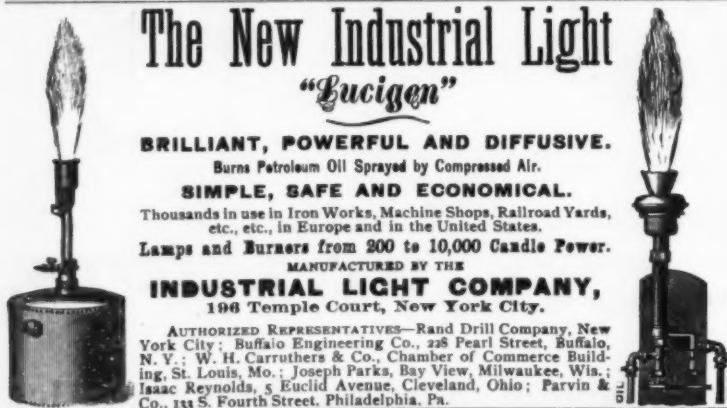
Thousands in use in Iron Works, Machine Shops, Railroad Yards, etc., etc., in Europe and in the United States.

Lamps and Burners from 200 to 10,000 Candle Power.

MANUFACTURED BY THE

INDUSTRIAL LIGHT COMPANY,
196 Temple Court, New York City.

AUTHORIZED REPRESENTATIVES—Rand Drill Company, New York City; Buffalo Engineering Co., 228 Pearl Street, Buffalo, N. Y.; W. H. Carruthers & Co., Chamber of Commerce Building, St. Louis, Mo.; Joseph Parks, Bay View, Milwaukee, Wis.; Isaac Reynolds, 5 Euclid Avenue, Cleveland, Ohio; Parvin & Co., 133 S. Fourth Street, Philadelphia, Pa.



TORCHES

To burn Gasoline and Oil. 500,000 in use.
Not affected by wind or weather.

Casoline Furnaces

For plumbers' use. Powerful Flame. Removable Melting Pot. Wind does not affect it.

GASOLINE PAINT BURNERS.

Steel Bodies. Light and Strong. Adjustable Burner.

ALL GOODS GUARANTEED.

SOLE MAKERS

The Schneider & Trenkamp Co.
CLEVELAND, O.

RELIABLE
Torches.
Furnaces.
Paint Burners.

PENNSYLVANIA GLOBE GAS LIGHT CO.

SOLE MANUFACTURERS OF THE

IMPROVED ROYAL^{1ND} ELKINS GAS MACHINE

THE BEST IN THE
MARKET

22 to 28 S^t 15th ST.
PHILA'D'A.

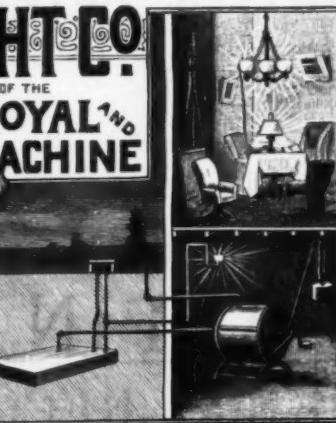
115 BROADWAY
NEW YORK

195 MICHIGAN ST.
CHICAGO.

NAPHTHA & GASOLINE
KINDS OF GAS MACHINES

CONTRACTORS FOR LIGHTING CITIES
AND TOWNS WITH THEIR RENOWNED SYSTEM OF
SELF-GENERATING GAS LAMPS. OVER 50,000 IN USE.

FOR ALL

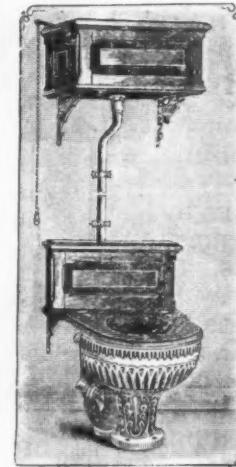


THE CHAMPION OF ALL FIRE EXTINGUISHERS.



Just the thing that is wanted at present. This machine is the most simple and durable in the market. Can be recharged for the small sum of 10 cents. Carries no pressure until required. Has no bottle to break, no screws to unloosen or harness, as it has a handle which makes it easy to operate. It throws a stream 45 feet in length. Will not injure flesh or fabric. Think of the great improvements over all other machines. Call or write.

Black Cloud Chemical Fire Extinguisher Co.
26-30 E. MAIN ST., CLEVELAND, OHIO.
Agents wanted everywhere.



EMBOSSSED "Electric" Washout Closet WITH Panled Hard Wood Tank and Seat.

The appearance of this Closet and Tank is very pleasing, and they make a handsome piece of furniture for any bath-room. The advantage of the open bowl will be readily appreciated, the accumulation of filth, rotting of wood work, etc., being avoided. Plumbers will do well by writing for our new Catalogue C.

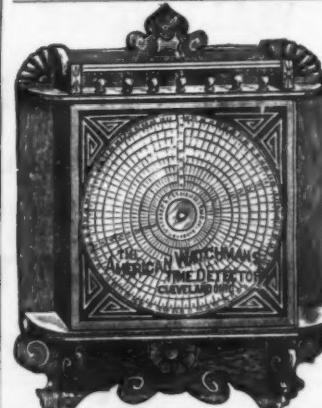
Haines, Jones & Cadbury Co.
MANUFACTURERS,
1136 Ridge Ave. PHILADELPHIA.

MILNER & KETTIG,



BIRMINGHAM, ALA.

WRITE FOR CATALOGUE AND PRICES.
Dollars presented on time or one-half price in this line in the United States.



THE AMERICAN Watchman's Time Detector.

This Electrical Instrument, which is operated by either battery or magneto generator as preferred, is designed to, and does, keep an exact record of the doings of the Night Watchman in any establishment where it is in use. It is an active and faithful guardian of your premises during the night. It is simple, reliable and absolutely infallible. Cannot be tampered with without certain detection.

Thousands of testimonials from the first concerns in the land. Send for catalogue to

The Cleveland Electrical Mfg. Co.
44 and 46 Sheriff Street,
CLEVELAND, O.

JAS. L. DAUGHERTY, Genl. Manager.

GUNS, RIFLES, PISTOLS.

Ammunition and Sporting Supplies

OF ALL KINDS. ADDRESS

The A. G. Alford Sporting Goods Co.



225 E. BALTIMORE STREET, BALTIMORE, MD.

VICTOR TURBINE

ON HORIZONTAL SHAFT.

SINGLE OR IN PAIRS.

DISPENSING ENTIRELY WITH GEARS.

Size of Wheel.	Head in Ft.	Horse Power.	Per Ct. Useful Effect.
15-inch	18.06	39.17	.8933
17½-inch	17.96	36.35	.8930
20-inch	18.31	49.00	.8928
25-inch	17.90	68.62	.8926
30-inch	11.65	53.54	.8920
35-inch	17.39	133.19	.8917
40-inch	16.49	148.93	.8913
45-inch	15.51	179.29	.8909

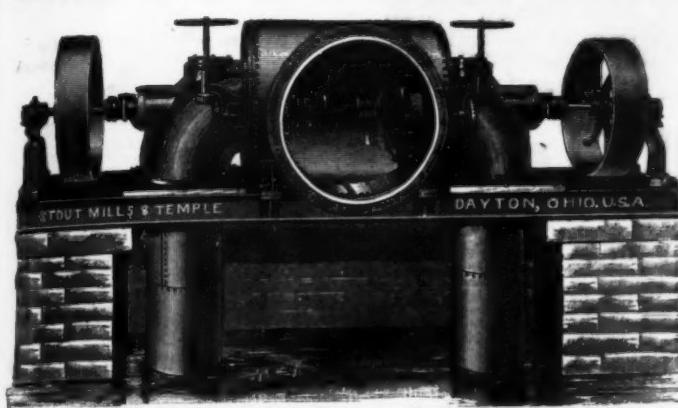
VICTOR WATER WHEELS, UPRIGHT OR HORIZONTAL,
FURNISHED ON SHORT NOTICE.RECENT SOUTHERN PATRONS: Clifton Mfg. Co., Piedmont
Mfg. Co., Camperdown Mfg. Co., Whitney Mfg. Co., Pelzer Mfg. Co.,
Euclid Mfg. Co., Henrietta Mills, Pacolet Mfg. Co. and others.

State your requirements and send for catalogue to the

STILWELL & BIERCE MFG. CO.
DAYTON, OHIO, U. S. A.

THE NEW AMERICAN

TURBINE WATER WHEEL.

On Vertical or Horizontal Shafts. Unequalled in
Power, Efficiency and Durability.

SEND FOR ILLUSTRATED CATALOGUE TO

The Dayton Globe Iron Works Co.
DAYTON, OHIO.

SUCCESSORS TO STOUT MILLS & TEMPLE.

Manufacturers also of Pulp and Paper Mill Machinery, Heavy
Shafting, Machine-Cut Gearing, Etc.

PLANS and ESTIMATES FURNISHED.

WATER WHEELS.

THE JAMES LEFFEL TURBINE

On Horizontal Shaft.

More than 20 varieties of this style built by

THE JAMES LEFFEL & CO.

SPRINGFIELD, OHIO, and 110 Liberty Street, N. Y. City.

Send for our Fine Pamphlet and other Information.

We have erected
STAND PIPES

At the following Places:

Kankakee, Ill.,	20x124
Cornwall, Ontario,	20x120
Salisbury, N. C.	20x100
Washington, Ind.	20x100
Beaver Dam, Wis.	20x84
Waterford, N. Y.	30x52
Berwick, Pa.	11x45
Homer, N. Y.	25x49
Cobourg, Ontario,	16x116
Marshall, Mich.	26x100
Hamburg, N. Y.	16x125
Canton, N. Y.	20x72

SHARON BOILER WORKS,
(Limited.)
SHARON, PA.

ALLENTOWN FOUNDRY & MACHINE CO.

ALLENTOWN, PA.

IMPROVED EUREKA TURBINE

FOR ECONOMY OF WATER WITH GREATEST EFFICIENCY

THE BEST IN THE WORLD

REPEATED TESTS AT HOLYOKE, MASS. GIVE IT 5 PER CENT
GREATER EFFICIENCY THAN ANY OTHER
WHEEL TESTED THERE. ITS USE IN MINING DISTRICTS
WITH SMALL AMOUNT OF WATER AND HIGH HEAD IS OF
THE GREATEST ADVANTAGE. OVER 800 NOW IN USE.
SEND FOR CATALOGUE. RUNNING MILLS, FURNACES, WATER WORKS, FACTORIES, MINES, ETC.

RODNEY HUNT MACHINE CO.

ENGINEERS, MACHINISTS, IRON and BRASS FOUNDERS,

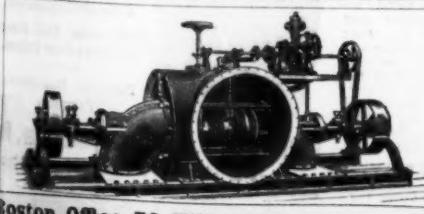
Turbine Water Wheels

VERTICAL AND HORIZONTAL.

IRON PLUMES and PENSTOCKS, HEAD GATE GEARING, REGULATORS,
and everything pertaining to Water Wheels and Mill Work.

These Wheels are Superior for High Power and Efficiency. Excellent Workmanship and Great Durability. Tight Closing Gate; Easily Operated.

Used in many of the largest manufacturing establishments in the United States. 8,700 horse-power furnished one mill, 7,200 to another, 2,100 in one cotton mill, and one manufacturer 70 wheels. All now running.



54 in. wheel tested in mill after running two years.....	.8430
30 in. heel at Holyoke Testing Flume.....	.8116
30 in. wheel at Holyoke Testing Flume.....	.9050
30 in. heel at Holyoke Testing Flume.....	.8780
30 in. (dead) wheel at Holyoke Testing Flume.....	.8461

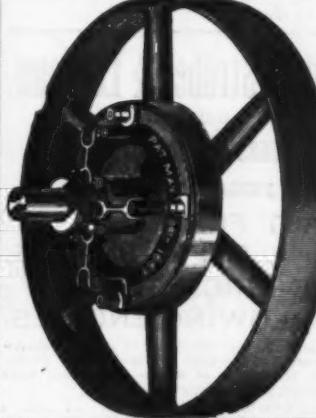
PART GATE.	
30 in. wheel at Holyoke Testing Flume. Proportional quantity of water, .768, one-half gate opening.....	.7643
Proportional quantity of water, .566, one-third gate opening.....	.7985

Boston Office 70 Kilby Street. Catalogue Free.

ORANGE, MASS.

Write for Prices and Catalogues.

Refer to us Before Buying.



Todd Pulley and Shafting Works

EAST ST. LOUIS, ILL.

MANUFACTURERS OF

Machine Molded Pulleys,

HANGERS, BOXING, COUPLINGS,

SHAFTING,

AND Standard BOILER FRONTS

Contracts Made for Machinery Castings of all Descriptions.

Write for Prices and Catalogues.

Refer to us Before Buying.

TRADE NOTES.

N. H. MOREHOUSE & Co., of Toledo, Ohio, in calling attention to their grain, clover and timothy seed, point out the fact that a failure of crops is often attributed to atmospheric and climatic changes, when the real trouble is poor seeds. This firm has a brand of choice grade clover, which has been re-cleaned and bulked, said to be the finest in the market, and their orchard and lawn grass, Hungarian, red top and white clover are equally as good.

THE Thomas Manufacturing Co., Little Rock, Ark., is adding a gin factory to its already large plant, and will manufacture the Gwathmey hulling and end feed cotton gin. This company builds the Thomas direct steam self-packing cotton press, and estimates the consumption in its manufacture the coming season at four car-loads $2\frac{1}{2}$ and 3-inch gas pipe, four car-loads of $2\frac{1}{2}$ -inch turned shafting, two car-loads lag screws, carriage and machine bolts, and about 65 car-loads of lumber.

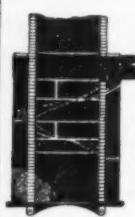
A FIRE extinguisher that has evoked many testimonials for efficiency is manufactured by the Miller Chemical Engine Co., of 13 North State street, Chicago, Ill. The apparatus is claimed to be handy and compact in arrangement and simple in application, being ready for use the moment taken in hand. It has been successfully tried on fires which, from the inflammable nature of the material burning, threatened to assume most destructive proportions, each test seeming to insure a large increase of sales in the neighborhood where made. The Collins Supply Agency, of Louisville Ky., is agent for this extinguisher, and will furnish any information desired upon application.

IN order to carry out an advertising scheme of the extreme originality, the members of the Mason Regulator Co., of Boston, Mass., have for the last several hundred days been dining with turkey as the distinctive feature of the menu, and with only visionary feasts of steaks, roasts and other rarities to vary the monotony. The scheme in itself was the issuance of a Thanksgiving Day souvenir in the shape of a handsome little folder of heavy cardboard, highly colored and enclosing the traditional "wish bone" accompanied by inscriptions suitable to the day. A diet of turkeys tenaciously adhered to, as was necessary in this case, is not surrounded by the usual appetizing anticipations of Thanksgiving turkey, and the members of the company no doubt gave thanks for their deliverance.

MR. JOHN MACLEOD, of Louisville, Ky., retiring president of the Engineering Association of the Southwest, has had a varied experience during the past 25 years. He has been connected with the management of different railroads at different periods as chief engineer, general superintendent, general manager, president and receiver, and has become thoroughly familiar with the details of railroad construction, maintenance, equipment, operation and management. In addition he has been identified with the many branches of constructive engineering, and acted in the capacity of chief engineer for many notable engineering triumphs, among which may be mentioned the Kentucky and Indiana bridge, a combined railway and highway structure over the Ohio river at Louisville, and the Louisville Southern Railroad bridge across the Kentucky river, which has been described as the longest span cantilever bridge in America.

THE ROYAL BLUE LINE is a superb, double track, steel highway between New York, Philadelphia, Baltimore and Washington via Jersey Central, Reading and Baltimore & Ohio Railroads. All the trains

are equipped with brand new vestibuled day coaches and buffet parlor cars, the finest ever constructed by the Pullman Co. The fastest trains between New York and Washington run via this route.



VICTOR COLLIAU,
Sole Manufacturer
OF THE
Improved Patent HOT BLAST
Colliau Cupola.
Address 287 Jefferson Ave.
DETROIT, MICH.



The COLLIAU
PATENT
Cupola Furnace.
Adapted to all Foundries,
The Most Economical,
The Lowest in Price.
MANUFACTURED EXCLUSIVELY BY

BYRAM & CO.
DETROIT, MICH.

JAS. P. WITHEROW.
ENGINEER & CONTRACTOR,
Furnace & Steel
Plant Construction.

PITTSBURGH, U. S. A.

Blast Furnaces and Steel Works designed and erected complete in every detail ready for operation. Special attention given to the manufacture of

• HEINE •
Safety Water Tube Boilers.

Owning an extensive manufacturing plant, I can guarantee promptness in execution, and satisfaction in any contracts undertaken by me.

Gordon, Strobel & Laureau,
(LIMITED),

ENGINEERS AND CONSTRUCTORS,
PHILADELPHIA, PA.

**BLAST FURNACES,
STEEL PLANTS,
FIRE-BRICK STOVES,
BLOWING ENGINES.**

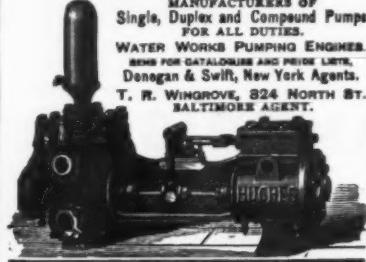
We are sole manufacturers of the Gordon-Whitwell-Cowper Fire-Brick Hot-Blast Stove, and within four years have introduced them as follows:

Jefferson Iron Works, Ohio.....	4
North Chicago Rolling Mill Co., Ill.....	3
Joliet Iron & Steel Co., Ill.....	4
Missouri Furnace Co., Mo.....	2
Jupiter Furnace Co., Mo.....	3
Western Steel Co., Mo.....	3
Tenn. Coal, Iron & R. Co., Ala. and Tenn.....	21
Cleveland Rolling Mill Co., Ohio.....	4
Belmont Nail Co., W. Va.....	3
Sloss Iron & Steel Co., Ala.....	20
Sheffield & Birmingham Coal, Iron & R. R. Co.....	9
Southern Iron Co., Tenn.....	6
Decatur Land, Iron & Furnace Co., Ala.....	2
N. Y. & Perry Coal & Iron Co., Ohio.....	2
Princess Furnace, Va.....	4
Irondale Furnace, W. Va.....	2
Cornwall Anthracite Furnaces, Pa.....	4
Duluth Iron & Steel Co., Minn.....	3
Geo. P. Whittaker Co., Md.....	2
Phila. & Reading Coal & Iron Co., Emses, Pa.....	3
Burden Iron Co., Troy, N. Y.....	3
Junction Iron Co., Ohio.....	4
Lawrence Furnace Co., Ohio.....	1
Piedmont Land & Improvement Co., Ala.....	3
Eckert & Brother, Reading, Pa.....	2
Leesport Iron Co., Leesport, Pa.....	2
Total.....	107

ALCOTT'S IMPROVED TURBINE
WATER WHEEL
STRONG,
DURABLE,
ECONOMICAL,
SIMPLE.
T. Alcott
& Son. Mfrs. MOUNT HOLLY
N. J.

HUGHES STEAM PUMP CO.
CLEVELAND, O.

MANUFACTURERS OF
Single, Duplex, and Compound Pumps
FOR ALL DUTIES.
WATER WORKS PUMPING ENGINES.
SEE FOR CATALOGUE AND PRICE LIST.
Denegan & Swift, New York Agents.
T. H. Wingrove, 824 NORTH ST.
BALTIMORE AGENT.



DON'T BUY AN ENGINE OR BOILER

Until you have seen our circulars. Engines complete from 5 to 110 horse power, both Vertical and Horizontal, at prices below those of other reputable makers. 1600 in use. Boilers of every style. Automatic Engines for Electric Lights. Centrifugal Pumping Machinery for Draining or Irrigation. Established 22 years. Perfect satisfaction guaranteed. Ask for Circular M and address

Morris Machine Works,
BALDWINVILLE, N. Y.

UNIVERSAL PLAIN MILLING MACHINES
EXCLUSIVE SPECIALTY
ADDRESS
THE CINCINNATI MILLING MACH CO
CINCINNATI, O.

HARRY MYERS MFG. CO.,
ELECTRICIANS,
WOOD & METAL WORKERS

Engineering Instruments, Models, Patterns, Brass Work, Nickel Plating, Japanning, etc. Correspondence solicited.

NASHVILLE, TENN.

PAT. SEP. 11,
1885.

KEY-SEATERS.
PORTABLE
and STATIONARY.
Rack-Cutting and Key-Making Attachments.

GIANT KEY-SEATER COMPANY,
East Saginaw, Mich.

FIRE
Yields quickly to the Miller Chemical Extinguisher.
No. 2 machine (cut) costing \$12 is cheapest, simplest, lightest, strongest, best. Stream 35 feet—no exaggeration—weight 18 pounds. Excels all rivals in having no bottle to break or empty; no handle to pull up; no sudden, unmeasured chemical strain to cause explosion; has but one working part—a non-corrosive full-way faucet; largest capacity is always under steady atmospheric pressure and instantly ready for use; may be tested any time and remain ready for service. No rival can; stream has full force till last drop is expelled. Easily recharged. Thousands in use. Other sizes and styles. Send for

circulars, testimonials, etc., to sole Southern Agts.
COLLINS SUPPLY AGENCY,
Louisville, Ky.

SUCCESS
Water Wheel.

This Wheel is strong and durable. Exceeded all other wheels in the great trial tests. Is in use all over the nation. I also make a specialty of
HEAVY GEARING & MACHINERY
For Paper, Cotton and Grist Mills.

S. MORGAN SMITH, York, Pa.

THE IMPROVED LANCASTER

Turbine Wheel.

Write for Descriptive Catalogue.



Lancaster Turbine Wheel Co. Lancaster, Pa.

Rome Foundry & Machine Works,
ROME, GA.

Manufacturers of the well known
DAVIS DOUBLE TURBINE

Water Wheel

Beyond all question one of the best Wheels on the market, and is fully guaranteed.

Send for Illustrated Catalogues and Prices.

ALSO MANUFACTURE
Portable & Stationary Engines
AND BOILERS.

Grist and Flouring Mill Machinery.

The Balanced Gate Turbine.

PAT. SEPT. 3, 1889.
High Percentage,
Great Simplicity,

CLOSE FITTING
AND
EASY WORKING GATE

Under all Circumstances.
Sold under Full Guarantee at Low Price.

Send for Descriptive Pamphlet.

CHRISTIANA MACHINE CO., Christiana, Pa.

Makers of all kinds of Machinery for Transmitting Power. Perfect Goods Only.

The Best Place in the South for Locating
* Great Industries. *

Shendun, Virginia.

The Grottoes Company

Having placed the \$1,500,000 of stock it offered for subscription, and sold 200 of its city lots at an average of \$640 each, is now ready to negotiate for the locating of

* Good Industrial Plants *

of many kinds at Shendun, its newly-laid-out city at Grottoes Station of the Shenandoah Valley Railroad. It has large Resources of iron and other ores, brick and other clays, timber, etc., on its own

Great Estate of 30,000 Acres,

And it has ample means at command, enabling it to offer liberal inducements to those seeking new homes for themselves and their industries at one of the best locations in

The Famous Shenandoah Valley of Virginia.

Shendun now has a first-class hotel and a street car line, and many buildings are now in process of construction, and several important industries are being provided for.

Those desiring further information are invited to visit the place, or to a correspondence.

Jed Hotchkiss, President,

Shendun, Va.

LAWRENCEBURG, TENN.

The Coming Residence and Industrial City of the Great Western Mineral Belt of Tennessee.

THE LAWRENCEBURG LAND & MINERAL CO.

Capital - - - \$1,300,000.

E. F. CRAGIN, PRESIDENT.
CHICAGO, ILL.

V. S. PEASE, SECRETARY.
NASHVILLE, TENN.

F. H. FOSTER, ASST. SECRETARY.
CHICAGO, ILL.

OFFICES: Room 63, 185 Dearborn Street, Chicago, Ill., and Lawrenceburg, Tenn.

MANUFACTURING.

WANTED.—Furniture Factories, Sash, Door and Blind Works, Brick and Terra Cotta Works, Tanneries, Carriage Works, Barrel Factories, Spoke and Bending Works, Chair Factories, Cart Factories, Woolen Mills, Cotton Mills, Foundries, Machine Shops and other Small Industries.

It will be the policy of this Company to secure a large number of small industries, diversified in character, so that the shutting down of one plant will not paralyze the whole town.

CHEAP WOOD and IRON

are our strong cards.

HEALTH.

In another portion of the city, back from smoke and noise is *Lawrenceburg Heights*, the *Healthiest Place in America*. A rival to Asheville, N. C., in healthfulness and delightful climate, both in winter and summer.

An ideal all-the-year resort, laid off in beautiful drives, parks, an artificial lake, well watered by *pure freestone springs*.

The water a sure cure for kidney disease and other like complaints.

The air and climate a cure for consumption and throat diseases.

Hotels will soon be built in the Heights. Lots will be sold there with building limit.

Beautiful scenery, fishing, boating and hunting

FOR PROSPECTUS AND BY-LAWS ADDRESS

Lawrenceburg Land & Mineral Company,

Or at Lawrenceburg, Tenn.

Room 63, 185 Dearborn Street, Chicago, Ill.

SAFE AS A GOVERNMENT BOND

Are the Shares in the STAUNTON DEVELOPMENT COMPANY, which was organized

NOT TO BOOM, BUT TO UPBUILD.

"The Empress of the Valley."

Enthroned Amid a Score of New Industrial Towns, all of which Must Contribute to Her Prosperity.



Staunton is the established metropolis of the richest area between the Potomac River and the Gulf of Mexico.

Staunton is at the actual center of Virginia's richest ore fields.

Staunton has more paying industries already in operation than any town in the Shenandoah Valley.

Staunton has more money in her banks than any town in the South of equal population.

Staunton has more industries recently secured than any town in Virginia.

Staunton is the healthiest and most delightful place of residence in the United States.

At Staunton, malaria, that curse of so many towns, is entirely unknown.

Staunton is the most famous educational center in the South.

Staunton has more and finer churches than any city of its size on the continent.

Staunton offers cheaper raw material to manufacturers than any town in the South.

Staunton's transportation facilities are unsurpassed.

Staunton will soon have the finest new Hotel in the State, and the Development Company is managed on strictly business principles.

This Company owns 2,200 acres of land in and adjoining Staunton. A good building lot goes free with every two shares of stock of the Staunton Development Company.

The books of this Company will close on the 20th December, 1890.

Address M. ERSKINE MILLER, President,

STAUNTON, VIRGINIA.

Come to HAGERSTOWN,

Third Great Sale of Lots

CONDUCTED BY
J. GLENN COOK & CO.
 BALTIMORE, MD.

December 9th and 10th.

THE MAGIC CITY OF MARYLAND.

Where Money Grows Rapidly. The Interstate Metropolis. Population in 1884, 5,000. Population in 1890, 11,000.

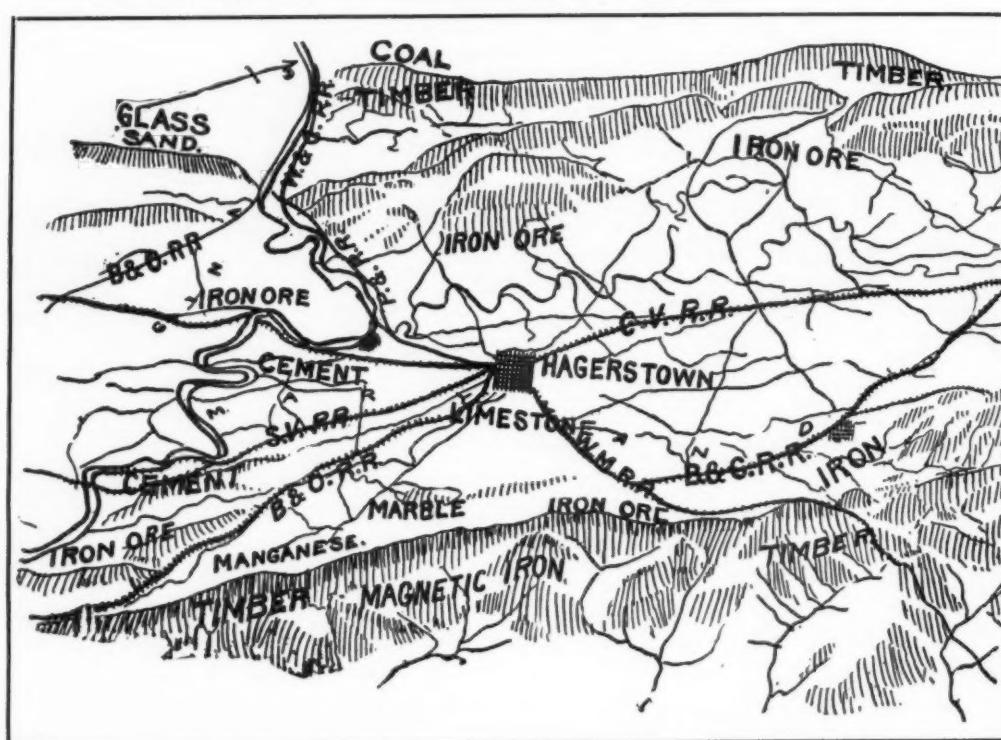
Her Growth Marvelous. Her Future Magnificent. 6 Railroads. Fifty Passenger Trains Daily (50.) Thirty-nine Mail Trains Daily (39). Unsurpassed for Manufacturing Facilities—95 already located, 6 in the last three months.

Its location commands the trade of Maryland, Virginia, West Virginia and Southern Pennsylvania. Substantial assistance given to manufacturers to locate here. Has magnificent Hotels, firm and well-graded Streets, Electric Lights, Pure Mountain Water and Free Postal Delivery.

Ores, Timber and Agricultural Products

Cheapest and in the Greatest

Abundance.



This contour map shows the location and railroad facilities of Hagerstown, in the "Garden Spot" of the Cumberland Valley.

Every Desirable Advantage here for all
 who are seeking Homes, Business, or
 Manufacturing Locations.

Hagerstown Manf'g., Mining & Land Improvement Co.

WASHINGTON COUNTY, MD., REAL ESTATE DEALERS,

Own and Control about 1,000 Acres of Land adjoining the City Limits.

Capital Stock,	- - - -	\$1,000,000
Remaining in Treasury,	- - - -	575,000

DIRECTORS.

CHAS. W. SEBOLD, President, and Manager of the Hagerstown Spoke and Bending Works.
 S. M. SCHINDEL, President and Manager of the United Silk Mfg. Co.
 PHARES M. MISHLER, President and Manager Inter-State Fencing Co.
 J. HANSON BEACHELEY, Wholesale and Retail Merchant.
 CORNELIUS L. KEEDY, Proprietor and President of Kee Mar College.
 REUBEN M. KEEDY, formerly in the Wholesale Notion Business.
 J. D. MAIN, Merchant and Secretary of the Hagerstown Hedge & Fencing Co.
 ALEX. R. HAGNER, Counsellor-at-Law and Attorney for Second National Bank.

OFFICERS.

PHARES M. MISHLER, Pres't. R. M. KEEDY, Secretary.
 J. D. MAIN, Treasurer. H. H. STRAUB, Acting Sec'y.

The Shenandoah Land & Improvement Co.

RESPECTFULLY

Galls the Attention of Manufacturers and Investors

To the SUPERIOR LOCATION and FACILITIES

FOR MANUFACTURING PURPOSES, HOMES AND INVESTMENTS GENERALLY

NOW OFFERED AT

SHENANDOAH,

PAGE COUNTY,

VIRGINIA.



LOCATION.

The town is situated on the east bank of the Shenandoah river, in the world renowned Shenandoah valley, the climate and scenery being unexcelled in the most favored sections of the United States. 1,100 feet above sea level; malaria unknown, atmosphere clear and bracing.

MINERALS AND TIMBER.

On both sides of the Shenandoah river, and immediately adjacent to Shenandoah, are immense tracts of land rich in iron, manganese, copper, lead, asbestos, slates, shales, fire-clay, etc., of fine quality.

Vast bodies of timber lands, furnishing in endless quantity the finest oak, hickory, ash, maple, walnut, chestnut, elm and pine for manufacturing and decorative purposes.

RAILROADS.

The Shenandoah Valley Railroad runs directly through Shenandoah, which will be the terminus of the Washington extension. The West Virginia Central Railroad, as projected, will pass through Shenandoah, opening up the immense mineral deposits of the Massanutten Mountains.

PRESENT INDUSTRIES IN OPERATION.

There is a Furnace Company, producing 30,000 tons of foundry and mill iron annually. They also operate a foundry. The Shenandoah Valley Railroad have here their principal machine shops, car shops, blacksmith and boiler shops. There is a brick works and two planing mills.

Improvements Decided Upon and Under Construction.

The Land and Improvement Company are building a large and commodious hotel; also a handsome office building. Plans are fully decided upon and work will soon begin on a water works, electric-light plant, water-power facilities, about one hundred dwellings, besides grading streets and laying sidewalks.

The Furnace Company have completed plans and will at once erect another Furnace and a rolling mill.

The Railroad Company will erect a handsome rough stone passenger station, a large freight house, new shops and a round house—doubling present capacity.

Many individuals are building residences and stores.

INDUCEMENTS TO MANUFACTURERS.

The Shenandoah Land & Improvement Company are prepared to offer inducements to manufacturers to locate here, and will treat most liberally with any such who desire to establish industrial plants.

By special permission in the charter of Shenandoah, all manufacturers who may establish works here are exempted from corporation taxes for five years.

Possessing so many advantages of such varied character, together with the many improvements now fully decided to be established here, there is every reason to believe that, based on a conservative estimate, Shenandoah will have at least 10,000 inhabitants within the next three years.

FOR COPIES OF PROSPECTUS OR FURTHER INFORMATION, ADDRESS

J. F. WHEELWRIGHT, Secretary.

C. POWELL NOLAND, President.

PRINCIPAL OFFICE, SHENANDOAH, PAGE COUNTY, VIRGINIA.

STODDARD, LOVERING & CO., 152 Congress Street, Boston, Mass., Sole Agents for DOBSON & BARLOW'S COTTON MACHINERY.

**HAVE YOU USED
ANY OF OUR
DOBBIES** ——————
FOR—————
Weaving Fancy Goods.
—————
THEY ARE BEST MACHINES IN EXISTENCE.

Let us put in a sample machine. We have no fear of the result. Address us for prices and description.
SCHAUM & UHLINGER,
SUCCESSIONS TO W. P. UHLINGER,
Glenwood Avenue and Second Street, PHILADELPHIA, PA.

THE DENN WARPER

WITH NEW DOUBLE LINKER,
Makes the BEST WARP in use.

SEND FOR CUTS AND PRICES.

Single Linkers Altered to Double Linkers.

GLOBE MACHINE WORKS,
FRANKFORD, PA.

VAN WINKLE GIN & MACHINERY CO.

ATLANTA, GA., and DALLAS, TEX.

MANUFACTURERS OF

COTTON GINS, FEEDERS,

CONDENSERS AND PRESSES,

COTTON-SEED OIL MILLS,

SHAFTING, PULLEYS, WIND MILLS, TANKS, PUMPS, Etc.

**The BEST COTTON-SEED OIL PRESS IN
THE MARKET**

Boxes Made Entirely
of Steel.

CAPACITY:

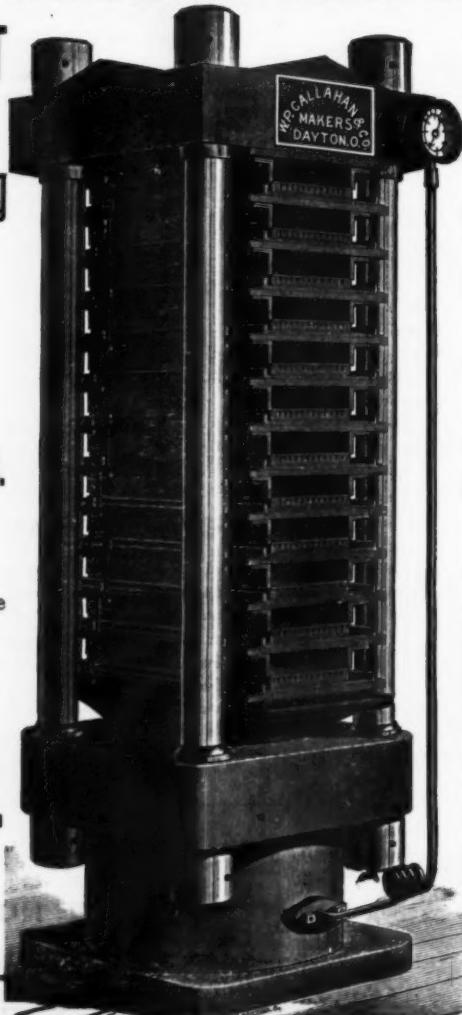
12 Tons in 24 Hours.

Parties contemplating the
erection of Cotton-Seed
Mills should
address

W. P. Callahan & Co.

DAYTON,

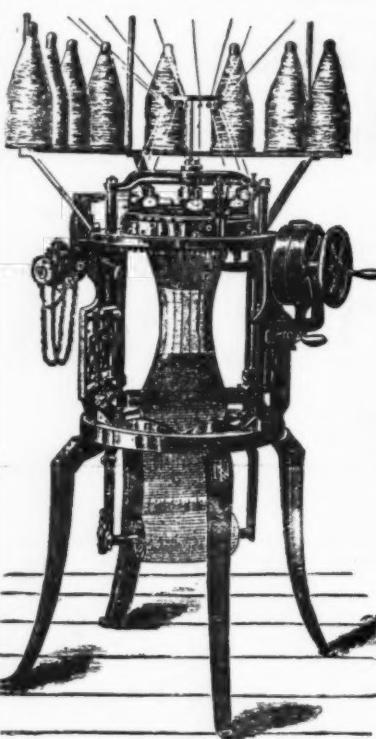
OHIO.



THADDEUS S. COBB & CO.
MANUFACTURERS' AGENTS AND DEALERS IN
MACHINERY OF EVERY
DESCRIPTION.
36 Central Street, Lowell, Mass.

NYE & TREDICK

MANUFACTURERS OF



Automatic Circular Rib
Knitting Machines

FOR

Plain and Fancy Ribbed Under-
wear, Skirts, Caps, Jackets,
Jerseys, Leggings, &c.

AGENTS FOR THE

KEystone Knitter,
FOR
SEAMLESS HOSIERY.

Winders, Loopers, Steam
Presses, Hosiery and
Shirt Boards, &c.

ADDRESS

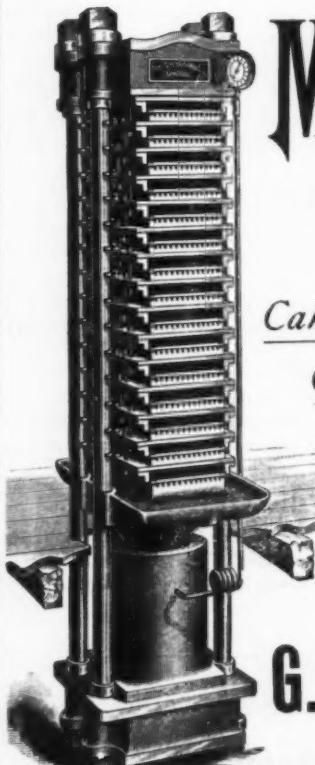
NYE & TREDICK, 608 Arch Street, Philadelphia, Pa.

**Cotton-Seed Oil
Machinery.**

GET THE BEST.
Presses, Pumps,
Cake Formers, Meal Heaters,

Chilled Roll Crushers,

Etc.



Send for Cuts and Prices.

THE

G. H. BUSHNELL CO.

THOMPSONVILLE, CONN., U. S. A.

Our Oil Presses are fitted with Tiffany Oil Mats, Steel Boxes, Cast Steel Cylinders

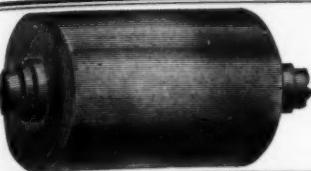
NONE BETTER.

BY WRITING TO
C. R. ENGLISH, 216 Purchase St., Boston, Mass.
YOU CAN OBTAIN

CARD CLOTHING

OF GUARANTEED QUALITY AT LOWEST PRICES.

REFERENCES TO NUMEROUS SOUTHERN MILLS NOW USING IT.



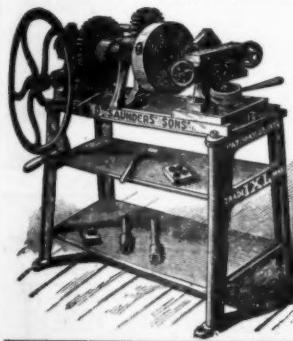
Clark's Patent Rubber Rolls

For Wool Scouring Machines, Warp, Yarn and Skein Dyeing Machines and Bleachery Use, etc. Also Complete Power Wringers, all styles. Only Rubber Roll that will withstand heavy pressure. Catalogue of rolls free.

GEO. P. CLARK, Box C, Windsor Locks, Ct.

D. SAUNDERS' SONS,

MANUFACTURERS OF THE ORIGINAL



TRADE I.X.L. MARK.

Pipe Cutting and Threading Machine.

BEWARE OF IMIATIONS.
None genuine without our Trade
Mark and name. Also

Patent Wheel Pipe Cutter

STEAM AND GAS FITTERS'
HAND TOOLS,

Pipe Cutting and Threading Machine

FOR PIPE MILL USE A SPECIALTY.

Send for Catalogue B.

31 Atherton St., Yonkers, N.Y.

THE EXCLUSIVE USE OF THIS FENCE FOR ADVERTISING PURPOSES HAS BEEN SOLD TO PANCOAST & MAULE, PHILADELPHIA, PA.
ANY ONE CAUGHT DEFACING THIS SIGN WILL BE PROSECUTED.

FOR SALE ON THE PREMISES DAILY
UNTIL FURTHER NOTICE.

The "American" Union.

A fitting which requires no packing to make a permanent joint.

The "American" Longscrew.

which possesses similar advantages to the AMERICAN UNION.

Malleable Iron and Polished Brass

Fittings of all kinds, for building Pipe Railings, also Awaiting Frame Fittings.

Ornamental Pipe Coil Fittings,

for constructing Ornamental Heating Coils of 1 and 1 1/2 inch Wrought Iron Pipe.

"Eclipse" Pipe-Cutting Machines,

built in six different sizes for use by hand or power.

Improved Steam Glue Heaters.

Made in nineteen sizes, with copper, plain, or malleable iron pots.

For Price Lists of any of the above, please address

PANCOAST & MAULE,
PHILADELPHIA, PA.

The STAR WATER TUBE BOILERS

Range in capacity from 1,000 sq. ft. of radiating surface to 6,000 sq. ft. Any special size made to order.

Steam or Hot Water Heating.

OR POWER.

THE FIREBOX dispenses with all brick setting. WATER TUBES and FIREBOX give best possible fire surface. Cast Iron BASE full length and width of boiler, fitted with improved SHAKING GRATE, accompanies each boiler.

Full Particulars and Prices cheerfully given.

Harrisburg Boiler & Mfg. Co.
HARRISBURG, PA.

See Star Gas Burner next week.



FLORIDA HEATING APPARATUS

Made in 10 Sizes for Steam.
Made in 14 Sizes for Water.
Made in 15 Sizes for Soft Coal.
THOUSANDS IN ACTUAL USE

For STEAM or WATER,
HARD or SOFT COAL.

WASHINGTON, D. C.—N. L. CHAPPELLE & Co.

BALTIMORE, MD.—ALVA HUBBARD & Co.

KANSAS CITY, MO.—GOSSE HEATING & PLUMBING CO.

ST. LOUIS, MO.—N. O. NELSON MFG. CO.

ROBERT DAWSON & Co. Limited, STALYBRIDGE, ENGLAND.

A. B. RECK, COPENHAGEN, DENMARK.

Write for our 3 catalogues.

THE DUNNING PATENT WROUGHT-IRON BOILER

WITH SELF-FEEDING COAL MAGAZINE.

IS THE BEST FOR

Low-Pressure, Steam or Hot-Water Heating,

And insures a warm house night and day. Over 15,000 in use. Keeps steam up constantly. Also

Steam Engines & Boilers of all kinds & Machinery generally.

MANUFACTURED BY THE

NEW YORK CENTRAL IRON WORKS CO.
36 Exchange St., Geneva, N.Y. New York Office, 36 Park Place.

Send for illustrated catalogue with full description and price-list. Correspondence solicited from architects and persons building. Agents Wanted.

Salem Foundry & Machine Shop

SALEM, MASS.

ELEVATORS,

AUTOMATIC HATCH DOORS, AUTOMATIC LOCK GATES.

Send for Illustrated Circular.

Menasha Hard Wood Pulleys.

We are sole makers of hardwood bent rim, oak spoke arm Pulleys; gripped to shaft with bolts, and using patent paper bushings. They can be put onto shaft without taking it down or cutting keyseats. No glue or nails used in their construction. Hub with bushing fits any size of shaft.

Also sole makers of only small Split Pulley 3 inch to 8 inches in diameter, in the market. See above cuts of them. No glue or nails in them. No Keyseats to cut. Also sole makers of only Hickory Hanger Pulley in the market; it has iron box. Send for illustrated circulars and discount.

MENASHA WOOD SPLIT PULLEY CO., Menasha, Wis.

BRANCH HOUSES: A. Van Vechten & Co., 165 Greenwich St., New York; H. N. Bates & Co., Boston; Chas. A. Turner, Pittsburgh, Pa.; Greene & Wood Mfg. Co., Philadelphia, Pa.; W. D. Allen & Co., Chicago and Minneapolis; E. L. Cole, New Orleans, La.; Thos. J. Bell & Co., Cincinnati; L. M. Rumsey Mfg. Co., St. Louis; Will J. Dunn, Atlanta, Ga.

THE ADJUSTABLE "Duplex" Die Stock

Quick. Accurate. Durable.

15,000 now in use.

HART MANUFACTURING CO.

CLEVELAND, O.

PORTBLE, HAND OR BELT PIPE CUTTING & THREADING MACHINE.

Double Application of Power. Double Leader Screw Instantly Changeable, range from 1 to 6 In. Pipes.

Write for Description and Prices

WELLS MACHINE WORKS, FOSTORIA, O.

Southern Investments

Timber Lands bought and sold on commission. I make a specialty of large tracts. Capital invested safely. Timber estimated and valued.

W. H. HOWCOTT,
192 Common Street, New Orleans, La.

CHERAW, S.C.

Has a population of between 1,200 and 1,500, constantly increasing; one of the healthiest and most beautiful towns in the State; on the great Pee Dee; excellent water power all around it; fine schools; churches of every denomination; literary lyceum and library; eligible town lots; fine timber lands near it; railroads from commercial centers; a delightful place to live. For particulars, address the Intendant.

ASHLAND, KY.

Offers manufacturers superior advantages. Situated in the famous Hanging Rock Iron Region, at the confluence of the Ohio and Big Sandy Rivers, at the head of low water navigation on the Ohio.

IRON, CLAYS AND TIMBER
as cheap as at any point in the Union. Steam coal one to three cents per bushel. Besides the rivers, it now has

5 RAILROADS IN OPERATION, and three more under contract, one approaching completion. Unexcelled advantages in cheapness and accessibility of raw material and transportation facilities.

In successful operation: Three Iron Furnaces; one Steel Nail Works, with Rolling Mill, largest in the West; Locomotive and Car Works; Dimension Furniture Factory; two Fire and three Red Brick Works and many others.

Large Steel Plant—400 tons daily capacity—constructed by Kelly, Bellefont & Norton Nail Works; Superior Water Works, Street Cars, Electric Lights, and ample Church and School Facilities. Town lots and acreage property on the market at very low rates. Liberal inducements offered meritorious concerns.

ASHLAND IMPROVEMENT CO.**R. K. WRIGHT, JR.
Real Estate and Insurance**

GRAHAM, Tazewell Co., VA.

REPRESENTING

Graham Land & Improvement
Co. and Niagara Fire In-
surance Co. of N. Y.

**THE CLIFTON FORGE
COMPANY,**

CLIFTON FORGE, VA., situate in the center of the RICHEST COAL AND IRON DISTRICT IN THE SOUTH. A Railroad and Manufacturing Centre, with a present population of thirty-five hundred and rapidly increasing in numbers. Over sixty buildings are under contract, including two fine hotels, two bank buildings, Odd Fellows Hall, Protestant and Catholic Churches, a large Female Academy, and in addition, three large Planing Mills and a Woolen Factory are nearing completion and will go into operation at once. The Chesapeake & Ohio Railroad are building their immense Locomotive and Car Shops at this point, which will give employment to about two thousand skilled mechanics in their operation. A Steam Street Railroad is being constructed on the Company's lands.

LIBERAL INDUCEMENTS TO MANUFACTURERS to locate their plants at this point. Free Sites and Liberal Subscription to Stock will be assured to good industries. As a manufacturing point Clifton forge is unsurpassed, being the junction of the Eastern, Western & James River Divisions of the great C. & O. R. R. System, and with the close proximity of the rich coal, iron and lumber regions, it makes a substantial claim to cheap fuel, cheap raw material and cheap and reliable transportation, the three necessities to profitable manufacturing.

W. G. McCORMICK, President.
LEWIS HARMAN,
Secty. & General Manager.



Subscribe to the MANUFACTURERS' RECORD

Six Trunk Line Railroads at**BESSEMER**

In the heart of Mineral Alabama, encircled with hills of Coal, Iron and Limestone Rock.

"The South is the coming El Dorado of American adventure. May the Almighty speed and guide her onward progress!" So wrote the Hon. W. D. Kelley, M. C., of Pennsylvania, a few months ago, and every day brings forth new evidence to prove the correctness of his prediction and to show that without a doubt the South is to be the richest country upon the globe. In climate, soil, mineral and timber wealth, in rivers large and small, in a long seacoast, in abundant rainfall, in healthfulness and in every other advantage that could be asked nature seems to have done her best for this favored land. The wealth in iron and coal is beyond estimate. Of timber there is an unlimited supply, including nearly every variety of hardwoods for woodworking purposes.

Seven Furnaces, output 1890, 250,000 tons; Rolling Mill, 100 tons daily; Fire Brick Works, 25,000 daily; Many Lesser Industries

Offers Thirty Varieties of Hardwoods for Woodworking Industries.

11,000 City Lots For Sale.**The Bessemer Land & Improvement Co.**

this new year, are prepared to deal liberally for the founding of Iron and Woodworking industries in this growing Mining and Manufacturing Center.

H. F. DeBARDELEBEN, Prest.

H. M. McNUTT, Secretary.

"GO SOUTH, *
* Young Man."

THE HONORABLE CHAUNCEY M. DEPEW, IN AN ADDRESS TO THE ALUMNI ASSOCIATION OF YALE UNIVERSITY, SAID, OF HIS RECENT TOUR THROUGH THE SOUTHERN STATES:

"The net results of this visit to the South, to my mind, is just this—that THE SOUTH IS THE BONANZA OF THE FUTURE. We have developed all the great and sudden opportunities for wealth—or most of them—in the Northwestern States and on the Pacific Slope, but here is a vast country WITH THE BEST CLIMATE IN THE WORLD, with conditions of health which are absolutely unparalleled—with vast forests untouched, with enormous veins of coal and iron which yet have not known anything beyond their original conditions, with soil that, under proper cultivation, for little capital can support a tremendous population; with conditions in the atmosphere for comfortable living winter and summer which exist nowhere else in the country: and that is to be the attraction for the young men who go out from the farms to seek settlement and not by immigration from abroad, for I do not think they will go that way, but by the internal immigration from our own country it is to become in time as prosperous as any other section of the country and as PROSPEROUS BY A PURELY AMERICAN DEVELOPMENT."

GO TO VIRGINIA. *

Where the Development is the Widest!
Where the Opportunities are the Greatest!
Where All are Welcome!

From Boston and New England Go via Merchants' and Miners' Steamship Line, via Norfolk; Pennsylvania R. R. via Norfolk, or Washington, or Harrisburg; Baltimore & Ohio R. R. via Shenandoah Junction.

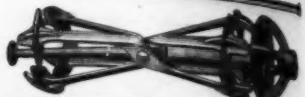
From New York, New Jersey, Pennsylvania, Delaware, Maryland,

Go via Old Dominion Steamship Line via Norfolk; Pennsylvania R. R. via Norfolk, or Washington, or Harrisburg; Baltimore & Ohio R. R. via Shenandoah Junction.

From Ohio, Michigan and the West Go via Pittsburgh, or via Chattanooga, or via Ashland.

For all information, Reference Books, Mineral Maps, etc., apply at Agencies Norfolk & Western Railroad,

290 Washington Street, Boston.
303 Broadway, New York.
1483 Penna. Avenue, Washington.
67 East State Street, Columbus, O.
Or General Offices, Roanoke, Va.



THE FRONTIER MANUFACTURING CO., find as a result of two years of satisfactory trial that their

PATENT LEVER FLUE CLEANER

is the best in the market. Why? Because the ends are protected from breakage by the brass springs; the only cleaner with a follower to remove the refuse. Quicker and more easily adjusted than any other; better made; does better work; lasts longer.

FRONTIER MFG. CO., Buffalo, N.Y.

WEBSTER'S "VACUUM" EXHAUST STEAM CONDENSER

Is a Feed Water Heater and Purifier.



74 Courtland St., New York.

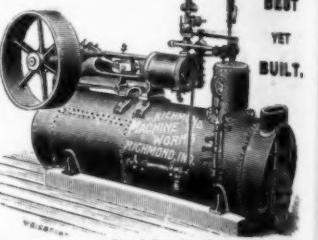
491 E. Third St., Philadelphia.

189 La Salle St., Chicago.



Boilers, Stacks, Tanks and Sheet Iron Works.
Steam Fittings of all Kinds.

E. KEELER CO., Williamsport, Pa.
Agents for Gilbert's Universal Wood Splitter.



Send for circular.
RICHMOND MACHINE WORKS,
RICHMOND, IND.

BRYANT IMPROVED AUTOMATIC HIGH-SPEED SAFETY ENGINE.

power known. Fuel—kerosene oil or natural gas.

BRYANT SAFETY ENGINE WORKS, Rochester, N.Y.

Automatic governor non-explosive boiler, no extra insurance, no engineer, no sparks, ashes or smoke.

Specially designed for those wanting power from 1/2 to 5 h.p. This is the safest, cleanest and most reliable

and most economical engine ever made.

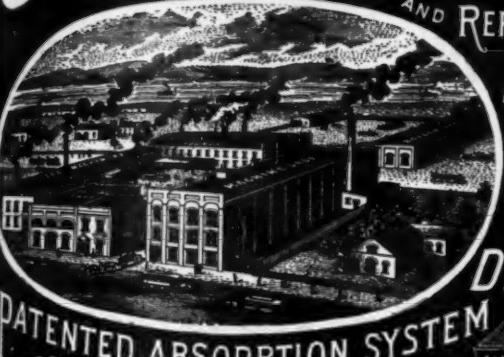
Address BRYANT SAFETY ENGINE WORKS, Rochester, N.Y.

Telephone: 1000. Telegraph: 1000.

Mail: 1000. Cable: 1000.

Telephone: 1000. Telegraph: 1000.

SULZER-VOGT MACHINE CO.
LOUISVILLE, KY.
ICE MACHINES



AND REFRIGERATING PLANTS FOR BREWERS PACKERS AND DEALERS.

PATENTED ABSORPTION SYSTEM
LATEST IMPROVEMENTS: GREATEST ECONOMY.

WRITE FOR ESTIMATES

L. H. REICK, President. I. NO. CAREY, Secy. & Tress. W. COOK, Superintendent.

ATLANTA MACHINE WORKS,
MANUFACTURERS OF
The Cook Improved Absorption Ice Machine

Boilers, Tanks, Smoke Stacks, Shafting, Hangers, Pulleys, Saw Mills, Mill Gearing.

GOLD MINING AND STONE-WORKING MACHINERY.
ATLANTA, GA.

Castle Automatic Absorption Ice Machine.

Uses but 210 degrees of heat in the retort, saving all the water for cooling the gas and the weak liquor from 32 degrees down to 210 degrees, and uses none for the absorber. Small machines are complete on heavy-cast foundation plate. Automatic in operation. **Warranted High-Class and Positive.** Hotels, creameries, &c., can make their own ice or refrigerate without additional help. Sizes 500 pounds to 10 tons per 24 hours.

CASTLE ENGINE WORKS, Indianapolis, Ind.

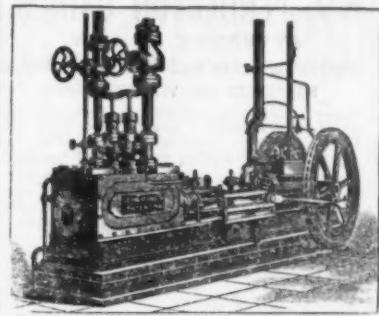
ICE MACHINE PAINT.

Made expressly for use on all surfaces of either wood or metal coming in contact with water, acids, ammonia, heat or cold. A DURABLE PAINT AT REASONABLE COST.

METALLIC PAINT for Roofs, Barns, Fences and all Exposed Surfaces.

Write for circulars and prices. Manufactured only by

A. F. BOUTON & CO., 118 Gansevoort St., N. Y.



FOR
Ice-Making and Refrigerating MACHINERY,

Sizes 5 tons and upwards to 100 tons.

ADDRESS THE

SIMPSON REFRIGERATING & ICE MACHINE CO.

OFFICE: 618 CHAMBER OF COMMERCE,
ST. LOUIS, MO.

R. M. WHITNEY,

MANUFACTURER OF

BLACK BIRCH HUBS.

OLEAN, N. Y., U. S. A.

These Hubs are made in sizes from 6x8 to 16x18 inches, and are especially adapted to dry climates.

Send for Circular and Prices.



THE HOWELL WHEEL CO.
COVINGTON, KY.

MANUFACTURERS OF

METAL WHEELS,

For Agricultural Implements,

Trucks, Wheelbarrows, &c.

FARRELL & REMPE,

MANUFACTURERS OF

Wrought Iron Pipe Coils



FOR
Ice and Refrigerating Machines.

COILS OF ALL DESCRIPTIONS FOR

Heaters, Soap Makers, Chemical Works, Blast Furnaces, &c.

PIPE BENDING of All Kinds A SPECIALTY.

799, 801, 803 & 805 OGDEN AVENUE,

Cor. Campbell Avenue,

CHICAGO, ILL.

WASHINGTON HOPKINS.

JAMES D. CARDELL.

JAMES D. CARDELL & CO.

PIPE BENDING WORKS.

PHILADELPHIA, PA.

Manufacturers of

Coils of Wrought Iron Pipe

for Ice and Refrigerating Machines,

Attemporators, Chemical Works,

Soap Works, Blast Furnaces, Etc.

Coils of Any Desired Length of Welded Pipe.

Pipe Bending and Welding a Specialty.

PRICES FURNISHED ON APPLICATION.

HARTMAN'S PATENT INSIDE SLIDING WINDOW BLIND

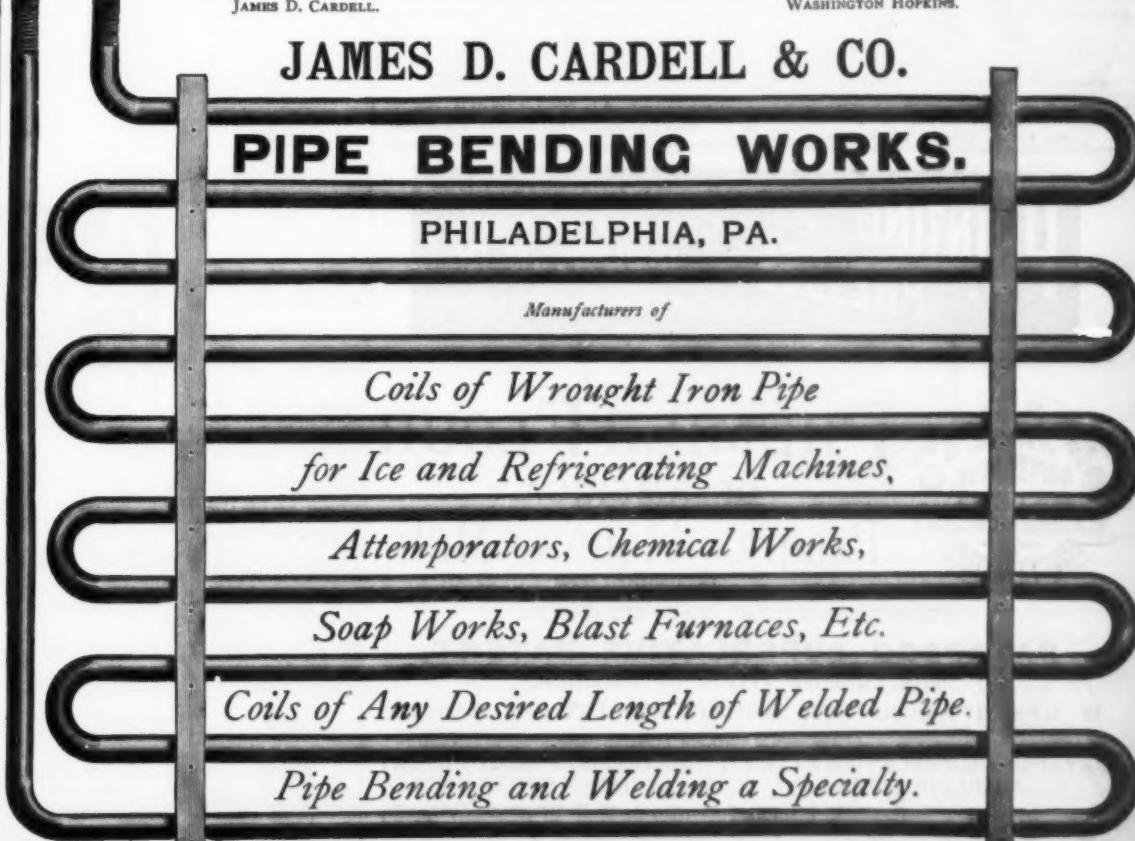
Is the most popular Blind in America. Architects and builders prefer it to any other for **merit, style, convenience and economy.** Not complicated. The **only** Blind that is furnished with an automatic **Burglar Proof Lock**, free of charge. This is an item in magnitude, and may save many times the cost of blinds and perhaps life also, and the sale of this gives entire satisfaction. **Thousands in use.** Agents wanted everywhere. Send for illustrated catalogue and prices. Manufactured by **HARTMAN & DURSTINE, No. 5 Beaver St., WOOSTER, OHIO.**

WILLER'S SLIDING BLINDS
SUPERIOR TO ALL OTHERS.

AWARDED THE HIGHEST PRIZE AT THE CINCINNATI CENTENNIAL EXPOSITION.

USED BY LEADING ARCHITECTS STATE YOUR BUSINESS WHEN WRITING FOR CATALOGUE OR AGENCY.

WILLIAM WILLER
SOLE MANUFACTURER - FOURTH & CEDAR STS., MILWAUKEE, WIS.



ATLANTIC TRANSPORT LINE,
BETWEEN BALTIMORE AND LONDON
Calling at Swanses and Philadelphia on the outward
passage.
S.S. Minnesota, 5,000 tons. S.S. Missouri, 4,500 tons.
S.S. Maryland, 4,500 tons. S.S. Michigan, (Bldg.)
S.S. Montana, 4,500 tons. S.S. Mississippi, (Bldg.)
S.S. Maine, 4,500 tons.
BALTIMORE STORAGE & LIGHTERAGE CO.
236 La Salle Street, and 10 Fenchurch Street,
Chicago, Ill. London.
400 Second Street, Baltimore, Md.

THE BAY LINE

Fortress Monroe, Morfolk and the South.

The Bay Line comprises the New and Elegant Steamers
"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of a First-Class Hotel are
afforded the traveler. Spacious and Elegant Cabins and
Staterooms, furnished with an especial view to comfort.
Unsurpassed Cuisine, which is made a specialty
with this Line. Elegant service and courteous attention.
Steamers arrive and depart daily from the Bay Line.

At Old Point Comfort is located the SPLENDID
HYGEIA HOTEL, a Delightful Resort at all Seasons of
the Year. For Tickets and Information apply at
Company's office,

157 W. BALTIMORE STREET, BALTIMORE.
Or on Board of Steamers.

D. J. HILL, Superintendent.
E. BROWN, General Ticket Agent.

THE BRADSTREET Mercantile Agency

WAS ESTABLISHED IN 1849.

Is the oldest and financially the strongest organization
of its kind, working in one interest and under
one management, with more capital invested in the
business, and expends more money every year for
the collection and dissemination of its information
than any similar institution in the world. Its reports
are considered in the light of a guide by both investors
and those contemplating the granting of credit.
In addition to a large corps of skilled employees,
more than one hundred thousand correspondents
contribute the result of their investigation and
opinions. Subscriptions are annual, and may commence
at any time the subscriber elects. Details as
to prices and terms will be furnished upon application.

CHARLES F. CLARK, President.
Baltimore Office—American Building.
M. KUEHRMANN, Genl.

Ryder & Dearh
PRINTERS &
WOOD ENGRAVERS &
FINE COMMERCIAL PRINTERS.
PHOTO-ENGRAVING IN ALL ITS BRANCHES.
Specialists in fine Machinery and general Wood Engravings, Portraits, Buildings, etc. Artistic designs in Letters and Bill Heads, Business Cards, Die-cut Lettering for advertising purposes, etc. Best work. Lowest prices. Electrotyping at lowest rates. 146 WESTMINSTER
STREET, PROVIDENCE, R. I.

MENGEL'S
PRINTING-
PRESSES,
—
PRINTERS'
MATERIALS.
LARGEST TYPE AND ELECTROTYPE FOUNDRY AND PRINT-
ERS' SUPPLY HOUSE SOUTH OF PHILADELPHIA.
Our Type is now used by The Baltimore Sun, Washington Post,
Critic, Herald, Public Opinion, and nearly all the leading Newspaper
and Book Offices in this vicinity. Send for estimates.

PRINTING PRESSES

TYPE AND PRINTERS' MATERIALS
OF EVERY DESCRIPTION.
THE JOHN RYAN CO.
BALTIMORE, MD.



THE
PREMIER FLOUR
OF AMERICA.
Patapsco Flouring Mills.
ESTABLISHED 1774.

PERFECTION IN FLOUR.

PATAPSICO SUPERLATIVE PATENT,

THE PREMIER FLOUR OF AMERICA,

IS UNSURPASSED FOR BREAD, BISCUIT OR PASTRY.

ASK YOUR GROCER FOR

PATAPSICO SUPERLATIVE PATENT, PATAPSICO FAMILY PATENT
ROLANDO CHOICE PATENT.

ORANGE GROVE EXTRA.

C. A. GAMBRILL MFG. CO.

Office, 214 Commerce Street, Baltimore, Md.

WM. PENDLETON GAINES,
ATTORNEY AT LAW,
Dealer in Texas and Mexican Lands,
MORTGAGES AND VENDOR'S LIENS.
Money loaned and invested for residents and non
residents. Eighteen years' experience in
Land Matters. Correspondence solicited.
120 E. Sixth St., AUSTIN, TEXAS. P. O. Box 162.
Fine Ranches, Stock Farms, Grain Farms, Cotton
and Sugar Plantations, Mineral Lands, Large
Bodies of Fine Agricultural Lands for Colonies.
REFERENCES:

Hon. L. S. Ross, Governor of Texas, Austin, Tex.
Jas. H. Raymond & Co., Bankers, Austin, Tex.
First National Bank Austin, Tex.
City National Bank Austin, Tex.
American National Bank Austin, Tex.
Provident National Bank Waco, Tex.

The Shenandoah Valley Illustrated.

The Shenandoah Valley Railroad Company issue a finely illustrated circular descriptive of the Valley of Virginia, famed from the days of Spotswood and the Horseshoe Knights, and made historic by the deeds of Jackson, Sheridan and other great military chieftains of the late war. The book is a chronicle of a leisurely journey through the uplands of Virginia, with running descriptions of the caverns of Luray, the Natural Bridge and the Grottoes of the Shenandoah. Hardly a road of the famed valley is lacking in historic associations, and the map accompanying the publication will guide the visitor to the more famous spots. Certainly, no more interesting region worthy of the attention of the tourist is to be found than the Valley of Virginia.

This company also issues a pamphlet known as the "Shenandoah Valley," and treats entirely upon the great natural resources awaiting development in the Shenandoah Valley of Virginia.

Copies mailed free upon application to
O. HOWARD ROYER,
Gen'l F. & P. Agt., Roanoke, Va.

The Finest on Earth.

The Cincinnati, Hamilton & Dayton R. R. is the only line running Pullman's Perfected Safety Vestibuled Trains, with Chair, Parlor, Sleeping and Dining Car service between Cincinnati, Indianapolis and Chicago, and is the Only Line running Through Reclining Chair Cars between Cincinnati, Keokuk and Springfield, Ill., and Combination Chair and Sleeping Car Cincinnati to Peoria, Ill.

And the Only DIRECT LINE

between Cincinnati, Dayton, Lima, Toledo, Detroit, the Lake Regions and Canada.

The road is one of the oldest in the State of Ohio and the only line entering Cincinnati over twenty-five miles of double track, and from its past record can more than assure its patrons speed, comfort and safety.

Tickets on sale everywhere, and see that they read C. H. & D., either in or out of Cincinnati, Indianapolis, or Toledo.

E. O. McCORMICK,
General Passenger and Ticket Agent.

SEEDS

—AND—

GRAIN

Mention this paper.

"ANCHOR BRAND"
Our
CHOICE GRADE CLOVER
Rocissed and Bellied.
W. H. MOREHOUSE & CO.
Wholesale Dealers in
GRAIN, CLOVER, and TIMOTHY,
Hungarian, White Clover, Red Top,
Millet, Alfalfa or Lucerne, Blue Grass,
Orchard Grass, Lawn Grass, POP CORN, &c.
CHOICE CLOVER and TIMOTHY SEEDS
a specialty.

Orders for purchase, or sale of Seeds for future delivery, promptly
attended to. Correspondence solicited.
Warehouses—325 & 327 Erie St.
Offices—46 Produce Exchange

TOLEDO, OHIO.

RICHMOND & DANVILLE R.R. CO. (PIEDMONT AIR-LINE.)

THE SHORT AND DIRECT LINE FROM

Washington, D. C., and Richmond, Va.,

to Atlanta, Augusta, Columbia, Asheville, Raleigh, Greensboro, Salisbury, Goldsboro, Birmingham, Montgomery, Vicksburg, Shreveport, Mobile, New Orleans, Texas, Mexico and California, and the South and Southwest.

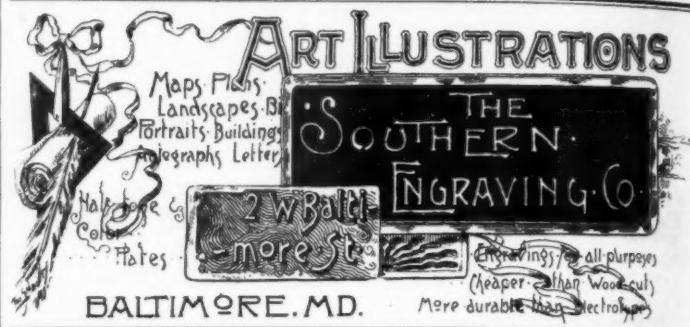
DOUBLE DAILY, SOLID TRAINS between Washington and Atlanta.
Pullman's Palace Buffet and Drawing-Room Sleeping Cars without charge
Atlanta, New Orleans, Augusta, etc.

For maps, time-tables, rates of passage, freight, etc., apply to nearest Station Agent of the Piedmont Air Line, or to any Railroad Agent of principal lines North or South.

PEYTON RANDOLPH, General Manager.

SOL. HAAS, Traffic Manager.

JAS. L. TAYLOR, Gen. Pass. Agent.



HULT & WIBORG
PRINTING INKS.
CINCINNATI.
A&W INK USED ON THIS PUBLICATION

BRANCH OFFICES,
152 and 154 Monroe Street, Chicago.
6 Gold Street, New York.

THE WASHINGTON HYDRAULIC PRESS BRICK COMPANY,

MANUFACTURERS OF
Ornamental and Plain Front Pressed Brick in Red, Brown,
Gray and Buff Colors, also Rock-Faced and Roman Brick.

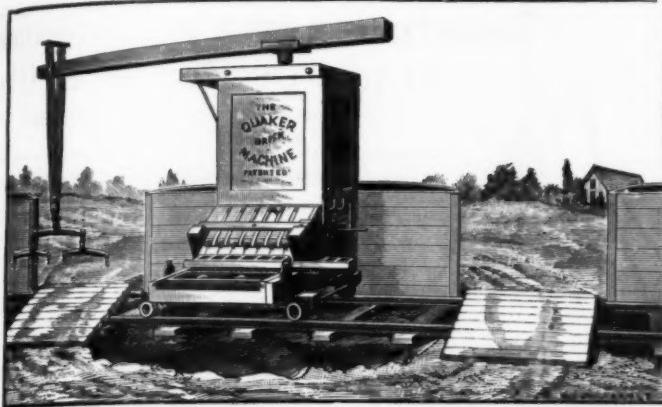
Brick for Arches Ground to any Radius.

Correspondence and Inspection of Works Solicited.

OFFICE: Kellogg Building, Washington, D. C.

Works at Waterloo Va.

Improved Brick Machinery AND BRICK MAKERS' SUPPLIES.



THE NEW QUAKER HORSE-POWER BRICK MACHINE,

Capacity 15,000 to 20,000 per day. Steam-power 25,000 to 40,000 per day.

Spiral Pug Mills, Mold Sanding Machines, Molds, Barrows, Trucks, &c., &c. We contract to furnish and Equip Complete Yards, Engines, Boilers, Shafting, Pulleys, Belting, &c., &c. Send for Illustrated Catalogue. Correspondence Solicited.

FLETCHER & THOMAS, Indianapolis, Ind.

Chambers' Brick Machinery



15,000, 25,000, 50,000 per day Capacity.

GUARANTEED AND FURNISHED ON THIRTY DAYS' TRIAL.

CHAMBERS BROS. CO., Philadelphia, Pa.

Brick Machinery

Capacity 15,000 to 100,000.

Pug Mills, Crushers, Elevators, Etc.

Full Outfits a Specialty. Satisfaction Guaranteed.

ADDRESS

J. W. PENFIELD & SON

WILLOUGHBY, OHIO, U. S. A.



SEND FOR CATALOGUE
C. W. RAYMOND & CO.

Dayton, Ohio.

Brick and Terra Cotta Machinery

Steam Sewer Pipe Presses, Dry Pans for Grinding Clay, Wet Pans for Tempering Clay, Pug Mills and Engines. Complete Outfits.

STEVENSON & CO., Wellsville, O.



OHIO BRICK AND TILE MACHINES,

Three sizes, with and without Crusher Rolls.

BUILDING, PAVING AND FIRE BRICK,

CAPACITY:

10,000 to 40,000 DAILY.

Drain Tile, Hollow Building Blocks, &c.
Unequaled.

Write for Catalogue.



E. M. FREESE & CO.
Plymouth, O., U. S. A.



Send for Illustrated Catalogue.

Mention Manufacturers' Record.



Issues Policies of Insurance after Careful Inspection of the Boilers, covering Loss or damage to property, and Loss of Life and Personal Injury

ARISING FROM STEAM BOILER EXPLOSIONS.

Full information concerning the plan of the Company's operations can be obtained at the COMPANY'S OFFICE, Hartford, Conn., or at any Agency.

J. M. ALLEN, President.
J. B. PIERCE, Secretary.

W. B. FRANKLIN, Vice-Prest.
F. B. ALLEN, 2d Vice-Prest.

BOARD OF DIRECTORS:

J. M. ALLEN, President.
FRANK W. CHENEY, Treas. Cheney Bros. Silk Mfg. Co.
CHARLES H. COOKE, Ch. of Bank of Conn.
DANIEL PHILLIPS, American Express Co.
RICHARD W. H. JARVIS, Pres. Colt's Fire Arms Mfg. Co.
THOMAS O. ENDERS, Pres. of the United States Bank.
LEVERETT BRAINARD, of The Case, Lockwood & Brainard & Co.
GEN. WILLIAM FRANKLIN, late Vice-Prest. Colt's Patent Fire Arms Mfg. Co.
NEWTON CASE, of The Case, Lockwood & Brainard Co.

Maryland Department—LAWFORD & McGINN, Gen. Agents 22 S. Holiday St., Baltimore.

The Raymond Bros. Impact Pulverizer Co.

303-311 SOUTH CANAL STREET, CHICAGO, ILL.

NEW SYSTEM OF PULVERIZING PLANTS

FOR REDUCING IRON, PHOSPHATES, CLAYS, ETC. (either hard, soft or fibrous materials), to any degree of fineness. Great saving in cost of plant. Greater capacity. Smaller power and little wear and tear. Estimates and plans furnished for complete plants.

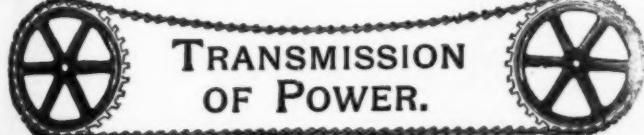
PHOSPHATE, PAINT AND CLAY PLANTS OUR SPECIALTY.

SEND FOR CIRCULARS.

CORRESPONDENCE SOLICITED.

Simple,
Effective,
Economical.

The New Griffin Mill produces uniform results from all substances, however refractory, and either wet or dry. Send for illustrated pamphlet to the BRADLEY FERTILIZER CO., 27 Kilby Street, Boston, Mass., Agents.



Machinery for Handling any Material in Bulk or in Packages.

The Link-Belt Engineering Company,

NEW YORK 49 Dey Street. Nicetown, PHILADELPHIA, PA.

Successors to BURR & DODGE, PHILADELPHIA
AND
EASTERN BRANCH LINK-BELT MACHINERY CO.

New York.

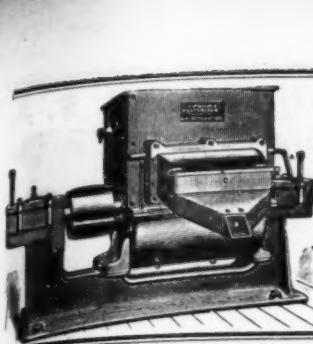
EWART DETACHABLE LINK-BELTING,
DODGE CABLE CHAIN
ELEVATORS. CONVEYORS. LINK DRIVING BELTS.

Wardwell Stone Channelling AND Quarrying Machine.

WILL pay for itself in a short time in reduced cost of getting out Stone. Has no equal for efficiency and economy of operation. Pronounced by those who have used it the best machine for the purpose in the world. Send for illustrated catalogue, with full descriptions and letters from parties now using the machines.

Steam Stone Cutter Co.
RUTLAND, VERMONT.

Lincoln Iron Works. Machinery
RUTLAND, VT. For working Marble, Stone and Wood Shafting
Pulleys and Gearing. Send for Catalogue.



SAMUEL WOODHOUSE,

Successors to OHIO CHAIN COMPANY,

MANUFACTURERS OF

Crane, Cable, Dredge
and Crown Proof Coil Chains, Safety Chains

AND

COAL MINE CHAINS MADE TO ORDER.

Chains of Every Description Made to Fit any Wheel or Machine. First Premium, Silver Medal, Awarded at Northern Ohio Fairs of 1870, 1872 and 1873.

OFFICE AND WORKS, NEWBURCH, O.

F. H. C. MEY.

Chain Belting Engineering Works,

APPROVED APPLIANCES FOR

Elevating, Conveying and Transmission of Power.

Saw Mill, Lumber and all Woodworking Machinery, Sawdust, Slabs, Refuse, Lumber, Logs, etc., Grain-Coal, Coke, Stone, Clay, Phosphate, Chemicals & Fertilizers.

FOR PROPELLING STEAMBOATS, TRACTION ENGINES

PATENTEE AND MANUFACTURER,

Send for Catalogue.

64 to 68 Columbia Street, Buffalo, N. Y.

H. W. CALDWELL & SON,

127 to 133 W. Washington Street,

CHICAGO, ILL.

General Machinists,

ELEVATING, CONVEYING AND POWER TRANSMISSION MACHINERY.



Caldwell
Conveyor,
Link Belting,
Sprocket
Wheels,
Cotton Belting,
Rubber Belting,
Leather Belting,
Belt Clamps,
Elevator Boots,
Elevator Bolts,
Elevator
Buckets,
Concrete
Mixers,
Friction
Clutches,
Jaw Clutches,
Couplings,



CALDWELL-avery CORRUGATED.



AVERY PLAIN.



Caldwell CORRUGATED.

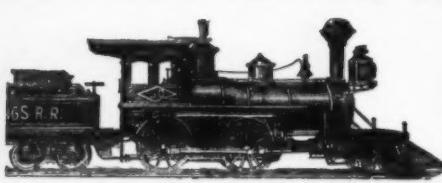
Flexible Spouts,
Gearing (all kinds),
Grain Scoops,
Power Grain
Shovels,
Grinding Mills,
Hangers,
Perforated
Metal,
Pillar Blocks,
Iron Pulleys,
Wood Pulleys,
Shafting,
Set Collars,
Swivel Spouts,
Take-Up Boxes.
Turn Head
Spouts,
Wire Cloth.

WE CARRY LARGE STOCKS FOR IMMEDIATE SHIPMENT.

COLD
DRAWN

FITZSIMONS & CO.
Manufacturers
SHAFTING
CLEVELAND, OHIO.

IRON
STEEL

H. K. PORTER & CO., PITTSBURGH, PA., U. S. A.**Light Locomotives and Noiseless Motors**

All gauges of track for Passenger and Freight Service, Logging Railroads, Mines, Blast Furnaces, Steel Works, Coke Ovens, Contractors' Work and Plantations.

Photographs and illustrated catalogue on application. In writing mention MANUFACTURERS' RECORD.

Memo.—All work STEEL FITTED and built to duplicate system. Extra parts kept in stock. We keep on hand, ready for immediate shipment, LOCOMOTIVES AND MOTORS OF SEVERAL SIZES, WIDE OR NARROW GAUGE.

**Richmond Locomotive & Machine Works, Richmond, Va.**

ESTABLISHED IN 1865.

**Builders of
LOCOMOTIVES**

for every variety of service
to Standard Designs or to meet
views of purchasers.

MOTORS
for Street Railways, Tram Roads
and Mines.**Stationary Engines**
for heavy duty.**BOILERS,**
Standard or Special.
Send for Catalogues, Specifications
and Estimates.**BALDWIN LOCOMOTIVE WORKS**

ESTABLISHED 1831.

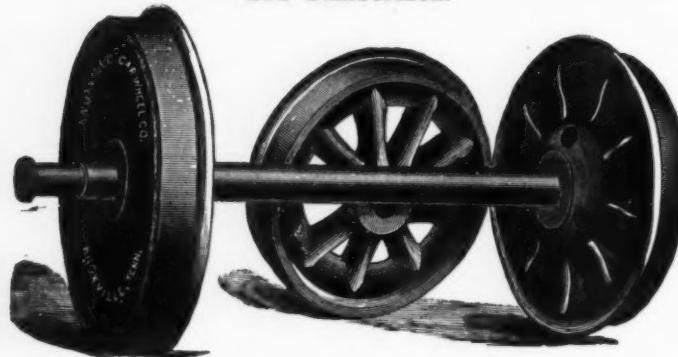


ANNUAL CAPACITY 800

Knoxville Car Wheel Co.

KNOXVILLE, TENN.

Manufacturers of all kinds of

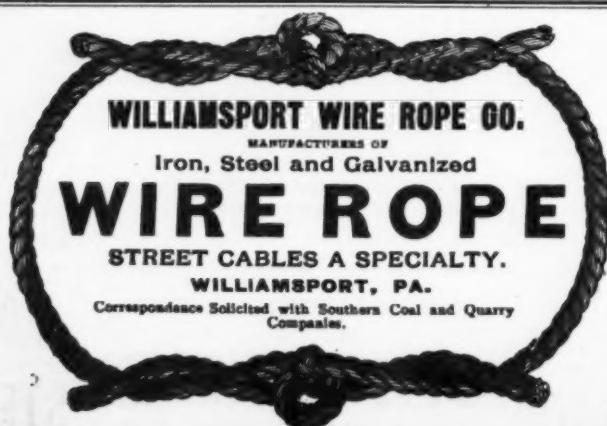
CHILLED WHEELS.For Railroads, Street Railroads, Ore and Coal Mines
and Lumbermen.

Steam Hammers,
Foundry Cupolas,
Derricks, Crabs,
Horse-Powers,
Shieves, Drill Heads,
Gearing, Pulleys.
Locomotives and Engines
Repaired and Indicated.

CORRESPONDENCE SOLICITED.

Guild's Automatic
Boiler Cleaner,
Car and Locomotive Castings.
Soft Iron Castings of all kinds.
Heavy Castings a specialty.
Wheels mounted on Axles if
desired, with Oil Boxes
and Bolts.

MENTION THIS PAPER.

**WILLIAMSPORT WIRE ROPE CO.**

MANUFACTURERS OF

Iron, Steel and Galvanized

WIRE ROPE

STREET CABLES A SPECIALTY.

WILLIAMSPORT, PA.

Correspondence Solicited with Southern Coal and Quarry
Companies.**R HOOPES & TOWNSEND,**

PHILADELPHIA, AND

The HOOPES & TOWNSEND CO.

WILMINGTON, DEL.

Cone, Button, Flat, Rose, Counter-Sunk, Button Counter-Sunk and Steeple Heads.

RIVETS

BOILER,

SHIP,

CAR,

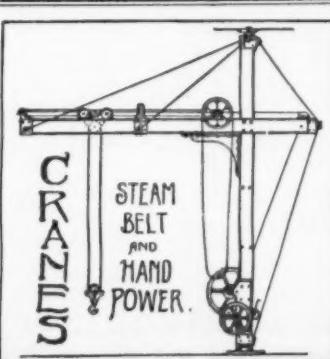


BRIDGE,

TANK,

STACK,

COOPER

RIVETS**Detroit Foundry Equipment Co.**

DETROIT, MICH.

MANUFACTURERS OF

**WHITING'S IMPROVED
Car Wheel Foundry Plant.**

The Whiting Cupola Ladles and
Reservoirs, Elevators, Clay Grinders,
Wheel Breakers, Tumblers, Soap
Flasks, Wheelbarrows, &c.
Correspondence Solicited.

The **VULCAN IRON WORKS CO.**
TOLEDO, OHIO,
U.S.A.

Builders of High-Grade
STEAM SHOVELS,
R.R. Excavators
AND
Hoisting Machinery.

Manufacturers of a full line of Plain and
Ornamental Boiler Funnels and Fittings.
Write for Photographs and
Descriptive Matter.



GIANT RAILROAD EXCAVATOR,

Weight, 40 Tons.

Capacity, 2,000 Cubic Yards per Day.

LITTLE GIANT EXCAVATOR,

Weight, 20 Tons.

Capacity, 1,500 Cubic Yards per Day.

THE WALKER MFG. CO. CLEVELAND, OHIO,
Engineers, Founders and Machinists,

BUILDERS OF

IMPROVED CRANES of All Kinds.



12 Ton Rope Drive Power Traveling Crane.

We solicit Correspondence relative to any work contemplated in this line.



Manufactured by RYAN-MCDONALD MFG. CO.

Shops and Warehouses, WATERLOO, N.Y.

Send for Illustrated Catalogue and Prices.

All correspondence should be addressed to Waterloo office.

BACON Winding Engines,
Furnace Hoists,
Mine Hoists.
(WITH OR WITHOUT BOILERS.)

"MINING PLANTS," CONCENTRATING WORKS, AND DREDGING
MACHINERY FURNISHED COMPLETE.

COPELAND & BACON,

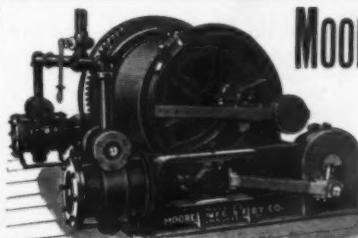
85 Liberty St., New York.

535 Arch Street, Philadelphia.

Croton Magnetic Iron Mines, Brewster N.Y.
Croton Point Iron Co., Crown Point, N.Y.
Belvidere Iron Co., 52 Broadway, N.Y.
Sea Island Chemical Co., Beaufort S.C.



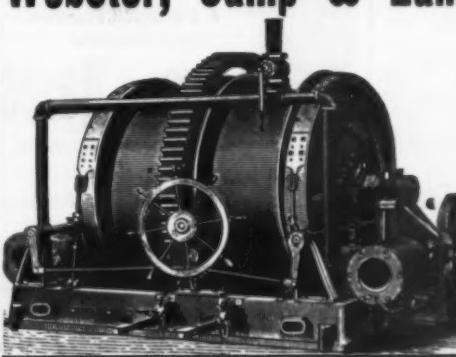
Moore Mfg. & Foundry Co.
MILWAUKEE, WIS.



Paper Friction Hoisting Engines and Drums,
Coal and Ore Handling Machinery,
Builders' Hardware, Etc., Etc.

Send for Catalogue.

Webster, Camp & Lane Machine Co.
BAND FRICTION
HOISTS.



Endless and Tail Rope
Haulage Engines for

COAL MINES.

Automatic and Slide Valve
Steam Engines, Boilers,
Pumping Plants, Cages,
Ore Cars, Sheaves, etc.

AKRON, O.

MINER & PECK M'F'G CO.
SUCCESSORS TO BEECHER & PECK
THE PECK PATENT DROP PRESS
DROP FORGINGS BLAST FORGES
NEW HAVEN, CONN.

BRADLEY AND HAMMERS AND FORGES
BEST HAMMERS IN THE WORLD RUN BY BELT
OVER 1500 IN USE.
Three Styles, 15 lb. to 500 lb. Heads.
Our FORGES heat irons fast enough to keep Hammers
and Men fully employed. Send for Catalogue and Prices.
BRADLEY & CO., SYRACUSE, N.Y.
14 WARREN ST. NEW YORK. 96 & 98 SUDBURY ST. BOSTON.

STEEL CASTINGS
From 1-4 to 15,000 lbs. Weight.

True to pattern, sound, solid, free from blow-holes, and of unequal strength. Stronger and more durable than iron forgings in any position or for any service whatever. 60,000 CRANK SHAFTS and 50,000 GEAR WHEELS of this steel now running prove this. CRANK SHAFTS and GEARING specialists. STEEL CASTINGS of every description. Send for circulars and prices if

CHESTER STEEL CASTINGS CO.
Office, 407 Library St., Philadelphia. Works, Chester, Pa.

Stuebner & Woods

MANUFACTURERS OF

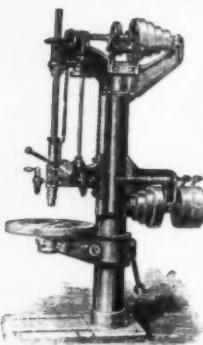
Self-Dumping Steel & Iron

Hoisting Tubs,

Side and Bottom Dumping Carts for Coal Elevators, Iron Wheelbarrows, Hoisting Blocks, Bottom-dumping Tubs for Coaling Locomotives, &c.

LONG ISLAND CITY, N. Y.

Send for circular and price-list.

**FINE SHOW CASES.**Ask for catalogue.
TERRY M'F'G CO., NASHVILLE, TENN.**THE SCIENTIFIC GRINDING MILL**The BEST MILL on EARTH
SAFETY BOTTOM and PIN BREAKER to prevent accidents. Reversible. Self-Sharpening GRINDING PLATES. Saves 25 to 50 per cent. Grinding Feed. Sent on trial with all others. Fully Guaranteed. Send for illust'd catalogue of this and ourNEW SWEEP MILL for two Horses
THE FOODS MFG. CO., SPRINGFIELD, O.**DRILLING MACHINES,**Upright
AND
Radial Drills,
SINGLE COLUMNBoring and
Turning Mills.
For catalogues and
prices addressBickford Drill Co.
170 TO 180
E. FRONT STREET,
CINCINNATI, O.**ROLLER and Detachable Chain Belting,**

Detachable in Every Link,

FOR IMPROVED

ELEVATORS,

CONVEYERS,

AND

Driving Belts

FOR HANDLING

Coal, Ores, Grain,
CLAY, BRICK, &c.

ADDRESS

The Jeffrey Mfg. Co.
121 W. State St., Columbus, O.

Also manufacturers of the Jeffrey Electric Coal Mining Machines, Coal Drills and Haulage System. Send for our illustrated (1890) catalogue.

Stow Flexible Shaft Co., Limited,Twenty-Sixth, Callowhill and
Bidle Sts., PHILA., PA.

Manufacturers of

FLEXIBLE SHAFTS,

And all kinds of Machines to be used with them. Portable Drilling, Tapping, Boring and Boiling Machines. Also Portable Tools for Emery Wheel Grinding, Metal and Wood Polishing, Cattle Brushing and Clipping, &c.

Builders of
Special Machines for Railroads,
Bridge & Boiler
Makers, Contractors, &c.

(LIMITED.)

FACTORIES: 1648 and 650 Fulton Street, Troy.

1395 to 401 Fifth Avenue, Chicago.

SALESROOMS: 15 Warren Street, New York.

581 & 583 Mission St., San Francisco.



Our line of Machinery is guaranteed to be the best for laundering all kinds of goods. Send for special catalogue R.

POWELL & LOCKWOOD,**General Dairy Supply House,**
112 Chambers St., New York City.
Every Requisite for Milk, Butter and
Cheese Industries.
Write for Catalogue.**DAIRY MACHINERY**

Complete Outfits & Specialty.

H. McK. WILSON & CO.

ST. LOUIS, MO.

Handsome Dairy Illustrated Catalogue mailed
free on application.**WHICH? BUTTER OR CHEESE.**If either, or both, send for
J. S. CARTER'S ILLUSTRATED
CATALOGUE, which gives full information
of latest and best method
and appliances for making Cheese
or Butter from the largest factory
to the smallest dairy.
Carter's Cream Churner
System of Butter Making is a success.
JOHN S. CARTER, Syracuse, N. Y.**R. M. JOHNSON,**
Manufacturers' Agent and Dealer in Corliss
Automatic Cut-Off and Plain Slide Valve**Steam Engines and Boilers.**Saw Mills, Machinists' Tools, Wood-Working
Machinery, Mining, Brick, Ice, Grist Mill, Dairy
Canning and Electric-Lighting Machinery.
Specialty: also Double Cylinder Traction
Engines. Complete outfit supplied at lowest prices.
Correspondence is solicited.

R. M. JOHNSON, Waynesboro, Va.

Fertilizer Mixing Machine.

Send for Circular.

C. H. DEMPWOLF & CO.

YORK, PA.

**THE CHAMBERLIN
Screw Stump Machine.**

The only Stump Machine in the world that successfully pulls all classes and sizes of stumps. Write for catalogue and price list.

MANUFACTURED BY THE
CHAMBERLIN MFG. CO.

OLEAN, N. Y.

The Motor of the 19th Century.2 to 40 H. P.
Can be used ANY PLACE, to do ANY WORK, and by
ANY ONE.No Boiler! No Fire! No
Steam! No Ashes! No
Gauges! No Engineer! No
Danger! No Smoke!A perfectly safe motor for all
places and purposes. Cost of
operation about one cent an hour to each indicated horse-
power. For circulars, etc.,
address CHARTER GAS
ENGINE CO., P. O. Box 240, Sterling, Ill.Economy, Reliability,
Simplicity, Safety.LATELY
IMPROVED.Just the thing to shift large
belts driving Dynamics, Blowers,
Gins, Saws, &c. Belt stops and slackens when machine
stops. Thousands in use, cost
very low. Sent on trial. Permit
us to quote you prices.Jones SCALES
THE CHEAPEST,
THE BEST."

FOR FREE CATALOGUE

ADDRESS

JONES OF BINGHAMTON, Binghamton, N.Y.

The WELLINGTON BELT HOLDER.LATELY
IMPROVED.Just the thing to shift large
belts driving Dynamics, Blowers,
Gins, Saws, &c. Belt stops and slackens when machine
stops. Thousands in use, cost
very low. Sent on trial. Permit
us to quote you prices.

W. R. SANTLEY & CO. Wellington, Ohio

TAPER-SLEEVE PULLEY WORKS

211 W. 12TH ST.

ERIE, PA.

Manufacturers of

Taper-Sleeve Wood

Belt Pulleys, Adjustable

Dead Pulleys,

Friction Clutch Pul-

leys, Friction Clutch

Couplings, Wood

Pulleys in Halves,

Taper-Sleeve and

Compression Coupl-

ings, Shafing, Post

and Drop Hangers.

Correspondence so-

licited.

Piston-Glass Pulley.

Read What a Michigan Miller Says of the Case Company.

DEVELOPMENT IN THE SHENANDOAH VALLEY.

Many New Industries at Shenandoah—Substantial Improvements Under Way.

SHEPHERDSTOWN, W. Va., Nov. 29, 1890.

Editor Manufacturers' Record:

In common with many others I have been an observer of the splendid work your journal is doing in aiding the present wonderful development of the New South. The immense amount of information gathered by you, as well as the publishing of

the many opinions and statements as to facts furnished by the distinguished men of the North and South who have examined into the present situation, are of great value to all. It is information that is as important to the Northern and foreign investor as it is to this section of the country that it should be known. The story of the wonderful development and progress in the South in the past few years would seem like one taken from the Arabian Nights were it not attested to after a careful examination and study by such men as Chancery M. Depew, Edward Atkinson, the members of the British Iron and Steel Institute who lately traveled through our country and a host of others too numerous to mention, many of whom have worldwide reputations for keen, conservative and good judgment in such matters. It would sometimes seem that after all that has been said and published upon the subject of the present development here every one would now be fully informed. The best evidence that many are so informed and have become convinced of the absolutely stable character of the improvements and development now progressing are the thousands from all sections emigrating to and making their investments in the South. The immense natural resources in the way of minerals, timbers and clays, so long undeveloped and now being worked industriously throughout this part of the country, upon examination are evident to the most inexperienced. Almost every one who has given any attention to the subject has become convinced that there is no part of the United States where such phenomenal returns can be secured upon investments in comparison with those now offering in this beautiful Shenandoah valley and Southwest Virginia.

This rapid change from neglect of opportunities and wonderful natural resources to the striking exhibition of activity, energy and development now to be seen in this section, and which has no parallel in the country, is easily understood by those conversant with the subject and the reasons for it. For nearly a century, by a strange infatuation, countless thousands of our population have been hurrying West to a country which does not offer a hundredth part of the natural advantages to be found in this valley. The terrible devastations of the war in men and property added its share to delay this movement now so splendidly being carried to fruition. The forces which produced past conditions are spent. Men are finding that the rush which hurried them to the far West and other parts of the country has carried them past the very things they were seeking. Then, too, the inertia naturally resulting for a time from a disastrous war has been completely shaken off, and with renewed vigor all are active in the building up of a

For full particulars regarding the BEST FLOUR OR CORN MILL MACHINERY, address

STURGIS ROLLER MILLS,

BAUER & BUHRER, Proprietors.

STURGIS, MICH., July 12, 1890.

THE CASE MANUFACTURING CO., Columbus, Ohio.

GENTS—We started mill July 7th. The 12 pair 9x18 rolls you furnished us worked perfectly. They are so easy to adjust, so simple to handle, feed so regularly, grind so nicely and even and work so smoothly on the whole, that we have no hesitancy in stating that we cannot see how they can have a superior, if equal. Aside from their perfect work, they are models of beauty and finish, and a decided ornament to any mill. We enclose clippings from papers. We are, with best wishes,

Very truly yours

BAUER & BUHRER.

country whose resources and possibilities were so little known as to now seem new. Added to this, a number of clear-sighted, able men have examined this region, and as the result are speedily making great fortunes for themselves and pointing the way for others in its present energetic development. All those who have been here and seen this new El Dorado bear testimony to its present enormous value and its marvelous future. Where there are such leaders, such capacity and energy others are sure to follow, and few who examine this subject will be found to even doubt.

In spite of all that has been said and that is actually known of the present conditions in this section, we must assume that there are many still uninformed, and for this reason, while we cannot hope to improve upon the arguments and evidence adduced by abler men, perhaps by the repetition of their arguments and the constant publishing of the evidence of the facts stated we may be able to inform all who have any wish or interest in being so informed.

Your correspondent has considered that in his small way he can best aid in accomplishing this hoped-for result by constantly keeping you informed of our development at Shenandoah, Va., as we progress. In other words, a record of what we have done, are doing and propose to do would seem to be the best work that one thriving town can do for itself and this wonderful section in proving that the claims made are reliable and promise great things for the future.

With this much of a preliminary, I will confine myself to the construction and development now going on in Shenandoah. One of the best examples illustrating the great change and the advance of manufactures in the South is the Shenandoah Furnace Co. Charcoal iron was made here in a small way as much as 60 years ago, and has continued to be produced in a desultory manner ever since. The present company secured their immense property something over a year ago, since which time their success has been phenomenal. The Gem furnace of modern design was erected and is producing about 35,000 tons of pig iron annually, which grades with the best Ohio and Pennsylvania brands. As an evidence of its fine quality, it is only necessary to say that the output for this year has been sold in the last 90 days. Now comes the point which so well illustrates the changing conditions of the South. The gentlemen at the head of this enterprising company, fully appreciating that the South must and will manufacture their own raw materials instead of shipping them to the North for that purpose as in the past, are now building an extensive rolling mill here, which will be equipped completely with the most modern machinery used in such mills. Competent judges assert that there is not so complete an establishment in Pittsburgh as the one now under construction at this place. They propose, therefore, to roll the output of their furnace into merchant and bar iron, and intend, at an early day, to erect an additional furnace or furnaces to insure a constant supply of iron for their mills, as well as for the demand in the North for their fine quality of pig iron. That you may know that the rolling mill is to be one of large dimensions I will give the same—length 375 feet 7 inches, width 232 feet. The construction

is in charge of Mr. Frank C. Roberts, civil engineer, Philadelphia, Pa. Contracts for the foundations have been let to Mr. W. C. Durand, of Chattanooga, Tenn., who commenced work on the same on the 17th inst. Contracts for the machinery were made on the 20th of September with the Robinson-Rea Co., of Pittsburgh, and the Lloyd Booth Co., of Youngstown, Ohio, to be completed and in position on the 20th day of January. The entire structure will be of iron and steel, all of which will be in place to receive the machinery on the date given. I think it unnecessary to say any more in support of the argument I have been making to show that the conditions in this section are changed.

The work of the Shenandoah Land & Improvement Co. is progressing satisfactorily. In the last three months they have graded 10 miles of streets and cut out ready for grading fully 40 additional miles. This work will progress throughout the winter as the weather may permit. A feature of this street improvement which will be built during the winter is a bridge 1,100 feet in length which will cross the furnace company's reservation and make an easy connection between the two parts of the town.

Their new office building is about completed, and will probably be occupied on the first of December. The extensive hotel which they are erecting will probably be under roof this week, and it is hoped to have it ready for occupancy in February. The present accommodations here as compared with the need for them makes this hotel a most important feature among the many improvements which they are pushing to completion.

A contract was recently signed for the building of the new water works which are to be of the most substantial character, and construction will begin on the same at once. This matter is in the hands of Mr. Howard Murphy, hydraulic engineer, No. 326 Walnut street, Philadelphia, Pa., who has a wide reputation for ability and experience in this class of engineering. In addition a large brick manufactory is organizing with the intention of making from 25,000 to 30,000 brick per day to supply the demand in this town and the surrounding country. They expect to be in operation at an early day.

The Improvement Co. have signed a contract with Geo. T. Williams & Co., of Cincinnati, Ohio, who will erect a large buggy and carriage manufactory here. They have agreed to employ 50 skilled workmen immediately upon completion of the necessary buildings, and to increase this to 100 skilled workmen within a year. They are also in negotiation for, with every prospect of securing, another carriage and buggy manufactory from Cincinnati, Ohio, of very much larger dimensions than the one above referred to.

We have known for some time that there was a fine deposit of fire-clay at this point, which is expected to be utilized as soon as the necessary arrangements can be made. Recently, however, the discovery was made that we are the possessors of a most excellent quality of pottery clay, and quite quantity of this material has been sent to Cincinnati, out of which dishes are to be made. As these and all other matters of importance in this place progress, your correspondent will endeavor to keep you fully advised.

A BUCKEYE.

The Case Manufacturing Company, Columbus, Ohio.

Literary Notes.

MESSRS. A. D. SMITH & CO., of Charlotte, N. C., have issued a very beautiful book of nearly 500 pages, splendidly printed on heavy paper and sumptuously bound, entitled "Western Northern Carolina." This volume is in part devoted to descriptions of the various counties that form that marvelous country known to the world as "The Land of the Sky," and in part to a history of the lives of the most prominent men of that section. Western Carolina is the wonderland of America—the future health resort of the world—the center of much of the richest mineral and timber country of the whole South—a land flowing with milk and honey. Language can scarcely do justice to the attractions and resources of that region, and hence all publications bearing upon it meet with popular favor. The work published by Messrs. Smith & Co. is so beautifully gotten up and contains so much of interest that it ought to command a wide sale.

THE FORUM for December contains the usual array of articles on topics of public interest and moment for which that periodical has acquired its fame. Two college presidents have their say, one, President Eliot, of Harvard, about "Family Stocks in a Democracy," in which he suggests the conditions for stable family growth in the United States. President W. A. P. Martin, of the Royal Tong Wong College, of China, states many things that are entirely contrary to what has heretofore been accepted as the truth about that country and its people. Ex-President Andrew D. White writes of the "Government of American Cities," and shows that this is the chief weak point of our entire American system of government. Other contributors are Archdeacon Farrar, Senator Jules Simon, Major W. Powell, Commander F. M. Barber and Congressman William M. Sprague.

ATTENTION is directed to the advertisement of Robt. Easton, Williamsport, Pa., who manufactures an improved gang lath mill having a great capacity for work of a superior order. The following letter will give an idea of the durability and capacity of the old machine, and the present gives still better results:

RONCEVERT, W. Va., Aug. 18, 1883.
MR. ROBERT EASTON:

Dear Sir—Your lath machines, now used by us, I consider the best and most durable lath machines in the market. Our average cut with 3 saws being 33,000 per day; have reached 36,000 several times.

[Signed], E. C. BEST,
Gen'l Mgr. St. Lawrence Boom & Mfg. Co.

A COMPLETE catalogue of the products of the M. L. Edwards Manufacturing Co., of Salem, Ohio, will be sent to any address upon application. It embraces illustrated descriptions of butchers', blacksmiths' and carriage-makers' tools, endless chain horse-powers, portable engines, feed cutters and sundry other articles.

FASTEAST TRAINS IN THE WORLD.—The Royal Blue Line trains between New York, Philadelphia, Baltimore and Washington via Jersey Central, Reading and Baltimore & Ohio are not only the fastest trains in the world, but their equipment is the finest ever built, and embraces all the devices and appliances to secure safety and comfort that are known to the car-builder's art—vestibuled cars protected by Pullman anti-telescoping device and heated by steam and lighted by Pintsch gas.

Subscribe to the MANUFACTURERS' RECORD.

The Markets.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, December 3, 1890.
The general drift in the iron trade centers of the country is towards conservative action on both sides. Production is not curtailed, nor is consumptive demand declining. It is said, whether truly or not is not known, that much new work is being and will be withheld, but as to this it would be well to wait for proof. An enormous amount of material is contracted for. A tight money market may lead to a little delay, but there are certain legitimate requirements which will be covered in any event. The tone of the market is good everywhere, even though the volume of business is not heavy. The policy of delay will be more productive of good than harm. Buyers are, of course, everywhere watching for a break in prices or signs of a break. The latest significant sale of Southern forge iron was a large lot at \$10 at furnace, equivalent to \$14.50 at New York, which is 50 cents to \$1.00 under current rates for standard Pennsylvania brands. Southern companies have been canvassing Northern markets, but not to unload at cut rates. Indeed, Southern iron-makers are showing a very bold front, and all sales, so far as known, are at regular prices. Southern No. 1 'oundry is \$16.75 to \$17.21 in Northern tide water markets; No. 2 \$14.50 to \$15; ordinary forge \$13.50 to \$14, and all ore forge \$15. Western brokers find a quiet, steady market and report a heavy consumption all over the country.

The only other interesting feature within the past few days was the closing of contracts for about 40,000 tons of steel rails at prices not openly stated, but believed to be \$28.50 at mill in Pennsylvania. It is stated that even lower figures were named on one or two of the lots taken. It is not clear that this is the beginning of activity in steel rails. The only thing definitely known is that inquiries covering a much larger quantity of rails have been in the market for several weeks. Slabs and billets are dull. The market for muck bars is quiet. Merchant bar mills are running full time. All other mill products are being purchased quietly as needed. Western markets are stronger than Eastern because of an assured winter's activity in works which turn out machine shop equipments and farming implements, etc. Nails, barb wire, sheet iron, merchant steel and heavy and light hardware are all selling well, but very few buyers are anxious to make contracts far ahead. Bridge building will be actively pushed. A large amount of material will go into office work, warehouse construction and elevated railroad work.

HARDWARE.

The volume of trade remains in about the same condition as at last report, although in some sections dealers are confronted with a serious problem in the conservatism of banks in supplying the funds necessary to move the crops. Under the depressing influence mentioned leading heavy staples show marked declines, which have not extended to general lines, and a removal of the causes in the near future will arrest any marked reductions which may otherwise be apprehended.

AMERICAN

PIG IRON Storage Warrant Co.
(Bank of America Building.)

44 Wall Street, NEW YORK.
Correspondence of Furnaces Invited.

Buy and Sell **SECOND HAND** Stave, Heading, Shingle and Ice Machinery and Hoisting Engines for **CABH**. Address Box 118, Cleveland, O.

NASHVILLE RAPID TANNING
AND
BELT MANUFACTURING CO.
Manufacturers of Oak Tanned and Rawhide Leather Belting, Lace Leather, Picker Leather, Ropes, Lariats and other Rawhide Leather Goods.
NASHVILLE, TENN.

THE PERFECTION MEAT CUTTER

THE LATEST,
BEST AND
MOST IMPROVED
FOR FAMILY USE.

CUTS
INSTEAD OF MASHES.
REQUIRES
NO REPAIRS.

EQUALLED
BY NONE FOR
FAMILY USE.

SIMPLE TO USE.

EASY TO CLEAN.

CANNOT GET DULL
OR OUT OF
ORDER.

No. 1—\$2.00. No. 2—\$2.75. No. 3—\$4.00.

Liberal discount to the trade, and descriptive circulars on application to

AMERICAN MACHINE CO.,
MANUFACTURERS OF HARDWARE SPECIALTIES,

Lehigh Ave. and American St., Philadelphia, Pa.
OR TO MANUFACTURERS' AGENTS:
HENRY KREIDEL & CO., 25 Hanover Street, Baltimore,
JOHN H. GRAHAM & CO., 113 Chambers Street, New York.

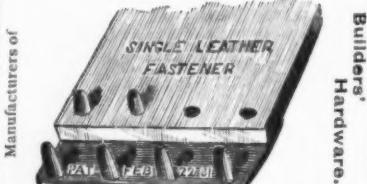
PICKARDS, MATHER & CO.
Pig Iron, Iron Ore and Coal.
Perry-Payne Building,
CLEVELAND, OHIO.

THE JACKSON & WOODIN MFG. CO.
Cast Iron Gas and Water Pipe and Castings
OF ALL DESCRIPTIONS.
Berwick, Columbia Co., Pa.
FREIGHT CARS, CAR WHEELS, BAR IRON.
SPECIAL CASTINGS.

EDWARD ALLEN,
Practical Lead Burner
BALTIMORE, MD.

Sulphuric Acid Chambers constructed on the latest improved plan. Strict attention given to the Lead Work of Concentrating Apparatus.
P. O. BOX 814. ESTIMATES FOR THE ABOVE GIVEN.

Thacher Patent Belt Fastener.



THE CLAFLEN MFC. CO.
Cleveland, Ohio, U. S. A.

LOOK HERE.—Capacity of the Maud S. and Buckeye Steam-Power Feed Mills is 15 to 60 bushels chop per hour.

—THE—
Maud S.
AND
Buckeye
Steam-Power Feed Mills

These mills will grind more grain of corn and cob, shell corn, barley, oats and shell corn and oats mixed than any other mill in the market for the amount of power used. Capacity, based on actual lists, guaranteed.
Shell corn, 25 to 40 bushels chop per hour.
Corn and oats, 20 to 40 " "
Corn and cob, 15 to 35 " "

Oats and other small grain the amount depends on the condition and firmness of grain. On damp grain the amount will be some less. Many of our customers that are using our mill have ground 64 bushels chop per hour. We make the old style scoop mills, capacity 8 to 12 bushels per hour. Write for prices to UNION FOUNDRY & MACHINE WORKS, Mansfield, Ohio.



bear the above TRADE MARK, and are sold by all LEADING JOBBERS at Manufacturers' prices.

Covert Manufacturing Co. West Troy, N.Y.

DIXON'S BELT DRESSING AND LEATHER PRESERVATIVE.

It is not a new article. It has the strongest recommendations. It is guaranteed to prevent slipping and to preserve the leather. It will pay you to send for circulars.

JOS. DIXON CRUCIBLE CO., Jersey City, N.J.



The "Original Gandy"
Sewed Cotton Duck Belting.
Especially adapted for Main Drivers, Saw Mills, Cotton Gins, Cotton Presses, and to all places where belts are subjected to moisture or atmospheric changes, the "GANDY" stands paramount.
For further information, prices, etc., write
The Gandy Belting Co., BALTIMORE, MD.

SOUTHERN AGENTS: Smith & Courtney, Richmond, Va.; Atlanta Rubber Co., Atlanta, Ga.; Baker, Sloe & Co., New Orleans, La.



The Only Manufacturers of Raw Hide Belting in the Country.
The Chicago Rawhide Mfg. Co.

MANUFACTURERS OF
**RAWHIDE BELTING, LACE LEATHER,
ROPE, LARIATS, FLY-NETS,**

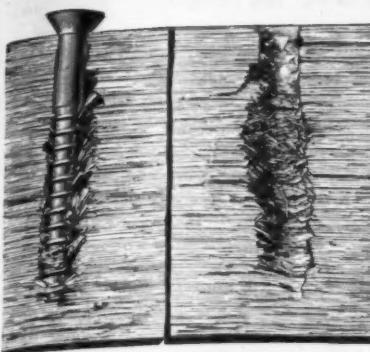
Picker Leather, Stock and Farm Whips, Washers, Hame Straps, Hame Strings, Halters and other Rawhide Goods of all kinds, by Krueger's Patent. This Belting and Lace Leather is not affected by steam or dampness; has more grip than any other; never becomes hard; is stronger, more durable and the most economical Belting made. Especially adapted for the Southern trade on account of its resistance to moisture. The Rawhide Rope for Round Belting Transmission is SUPERIOR TO ALL OTHERS.

73 and 75 OHIO STREET, CHICAGO, ILL.

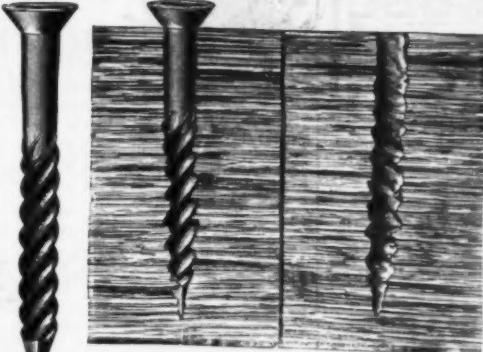


ALSO RAWHIDE LACE LEATHER.
SEND FOR OUR VALUABLE BOOK.
—FREE.—
ST. LOUIS, MO.
—AGENTS IN ALL CITIES—

AMERICAN SCREW CO., PROVIDENCE, R. I. "ROGERS' DRIVE SCREWS."



A common cut thread screw as ordinarily inserted—i.e., driven two-thirds of its length with a hammer and the balance with a screw driver. Fibres of the wood are necessarily broken, and the holding power of the screw much impaired.



The "ROGERS' DRIVE SCREW" driven with a hammer its entire length. It revolves as it goes in and does not break the fibres of the wood, but makes its own nut of the cavity it forms. Samples Sent on Application.

Patented May 10, 1887; July 19, 1887;
July 10, 1888. Other patents pending.

WIER & WILSON, Agents, Baltimore, Md.

The foregoing illustrations speak for themselves, but we call attention to a few advantages of the "ROGERS' DRIVE SCREWS."

1. Stiffness, adapted for driving with a hammer.
2. Rapidity of insertion.
3. Increased holding surface.
4. Ability to be driven with hammer and withdrawn with screw driver numerous times from same hole.
5. Superior head, which will withstand blows of a hammer and not impair the slot.
6. Improved slot, admitting the use of a heavier screw driver.
7. A Rogers' Drive Screw of small diameter will hold as much as a common screw of a larger diameter.

Discount 66% per cent. from list of common screws.

PROVIDENCE BELTING COMPANY, MANUFACTURERS OF Leather Belts, Loom Straps, Pickers, &c.

EXCLUSIVELY SHORT-LAPPED BELTS.

ROLL COVERING FOR WORSTED MACHINERY.

SEND FOR PRICES.

37 & 39 Charles Street, PROVIDENCE, R. I.



Made of galvanized iron and copper. Strong up to date. Exports foul air, odors, gases, steam, at iron mills, stores and dwellings; cures smoky houses. Perfectly storm-proof. Galvanized iron and copper cornices and gutters. Best metal work for buildings. Send for illustrated catalog.

E. VAN NOORDEN & CO.,
223 Harrison Ave., BOSTON, Mass.



THE ACME
ARCHED STEEL
EAVE TROUGH HANGER.
PATENT PENDING



THE STANDARD
Eave Trough Hanger
PATENTED
MADE OF BEST GALVANIZED
STEEL WIRE.

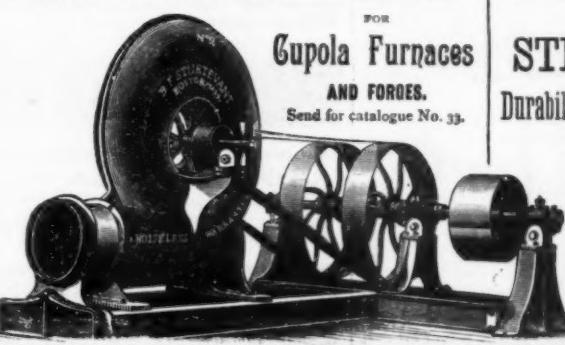
CHEAP, STRONG,
AND DURABLE.

For Price List, address
THE CANTON STEEL ROOFING CO.,
CANTON, OHIO.
SOLE OWNERS AND MANUFACTURERS.

B. F. STURTEVANT,

PATENTEE AND SOLE MANUFACTURER OF

THE STURTEVANT Steel Pressure Blower



FOR
Cupola Furnaces
AND FORGES.
Send for catalogue No. 33.

IMPROVED Portable Forges,

COMBINING
STRENGTH,
Durability, Simplicity & Convenience.

Send for catalogue No. 31.

B. F. Sturtevant,
BOSTON, MASS.

34 OLIVER STREET.

BRANCHES:
91 Liberty St., N. Y.; 31 N. Canal St., Chicago.
W. R. Burgess, Agent, Greensboro, N. C.



Engines and Machinery.

Steam Engines and Boilers, Boiler Feeders and Pumps, Shafing, Pulleys and Hangers, Mill Gearing and Supplies, Brass Goods, Fittings and Tools.

MODERN ROLLER MILLS

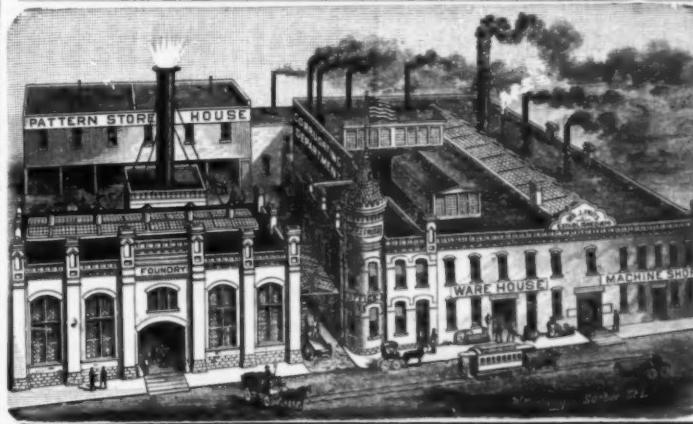
Electric Light Engines, single and double; Brewers' and Coopers' Machinery, Laundry and Bottlers' Machinery. Patterns made to order. Belting, Hose, Packing, etc. Machinery repaired on short notice.

Millers' Rolls Reground and Corrugated.

Send for Descriptive Catalogue, Price and Patterns List.

GEO. J. FRITZ

Founder and Machinist,
2008 to 2028 S. Third St.,
ST. LOUIS, MO.



RICHMOND CITY MILL WORKS,

RICHMOND, INDIANA.

— MANUFACTURERS OF —

FLOUR MILL MACHINERY

IN ALL ITS BRANCHES.

A Majority of the Best Flour Mills in the South Equipped by this Company.

CORRESPONDENCE SOLICITED.

BUY Cheapest FROM MAKER DALTON, Georgia. STEEL RAILINGS, GATES, POSTS, CRESTINGS, JAILS, ROOFS, STAIRS, Cast Columns, Sills, &c. All sizes. SAW MILLS. WRITE

CHARLES BURGESS,

MANUFACTURER OF ALL GRADES OF

CRUCIBLE TOOL STEEL

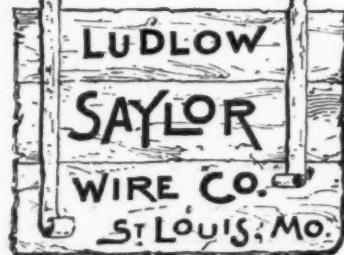
Including SELF-HARDENING STEEL for NAILERS', LATHE and PLANER TOOLS.

Warranted Equal to any Brand Made. Extra Quality Cast Steel for Shears and all special tool purposes.

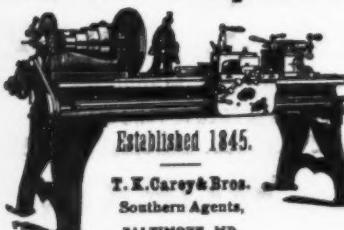
CYCLOPS STEEL WORKS, Titusville, Pa.

**FRED. J. MEYERS MFG. CO.**COVINGTON, KY., Manufacturers of
WIRE GOODS OF ALL KINDS,Wrought-Iron Fencing, Cresting and Hardware Specialties.
Send for Illustrated Catalogue and Price List.**Wire and Wire Goods****SPECIALTIES.**

Wire Cloth,	→ Screens for Coal,
Wire Rope,	→ Sand and Ore.
Fences and Railings,	→ POLISHED
Barbed and Plain	BRASS
Fencing Wire,	WORK
STAPLES.	

BANK AND OFFICE
RAILINGS, &c.

We make a Specialty of fine Artistic Work. Original Designs for Bank and Office Railings, Elevator Guards and Ornaments. We solicit correspondence with Architects, Contractors and Builders, Bankers, etc. Write for Illustrated Catalogue and Price-List—Free. Mention this paper.

Build & Repair Your Machinery

Established 1845.

T. K. Carey & Bros.
Southern Agents,
BALTIMORE, MD.**BY USING**Engine Lathes, Planers,
Chuckling Lathes, Hand Lathes,

AND

MACHINE TOOLS GENERALLY

MANUFACTURED BY

LATHE & MORSE TOOL CO.

Worcester, Mass., U. S. A.

IRON CLAD PAINT CO., Cleveland, O.

Factory, 75 & 77 Central Way. JAMES WADE, Sec. & Treas., 3 Cass Bldg.

ORDER DIRECT FROM THE

Iron Clad Paint Co.

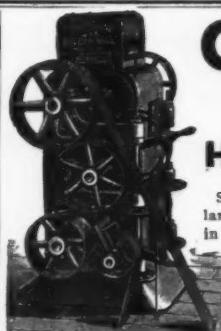
And get the genuine article, and save liability of suit for using an article made in violation of the patents issued to Wm. Green, and now owned by this Company.

IRON-CLAD PAINT is the most durable, most fire-proof and cheapest Paint made.

FURNISHED both Dry and Ground in Oil.

USED BY NEARLY ALL
THE RAILROADS.

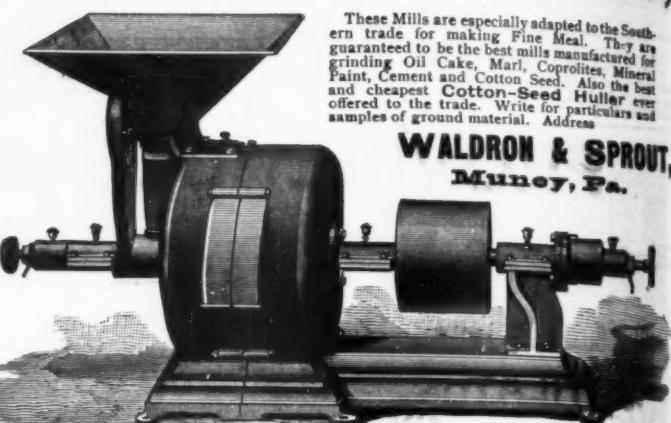
Trade Mark Patented. Paint Patented.

**CORN MILLS,
FLOUR MILLS,
HOMINY MILLS.**

Send for circulars. We are manufacturing the largest line of machines made by any one concern in the United States. All high-class and warranted. Address

THE J. B. ALLFREE CO.

76 to 86 Shelby Street. INDIANAPOLIS, IND., Four-Roller Wheat Mill.

**FRENCH BURR MILLS,**

These Mills are especially adapted to the Southern trade for making Fine Meal. They are guaranteed to be the best mills manufactured for Grinding Oil Cake, Marl, Coprolites, Mineral Paint, Cement and Cotton Seed. Also the best and cheapest Cotton-Seed Huller ever offered to the trade. Write for particulars and samples of ground material. Address

WALDRON & SPROUT,
Muney, Pa.

Manufacturers of French Burr Mills, Fleur Belts, Corn Meal Sieves, Wheat Scourers and Cleaners, Corn Ear Crushers, &c.

H. E. MCWANE, President and General Manager.

W. D. CAMPBELL, Secretary and Treasurer.

THE CLAMORGAN COMPANY, Proprietors of HILL CITY PIPE WORKS

Manufacture all kinds of Blast Furnaces, Coking and Mining Machinery; Boilers, Engines, Traction and Construction Car Casting, and Tobacco Machinery, &c.

Prices on application.

LYNCHBURG, VA.

CHATTANOOGA FOUNDRY & PIPE WORKS,

DAVID GILES, Pres. C. B. IDESTER, Vice-Pres. M. LLIWELLYN, Secy. and Treas. Successors to D. GILES & CO., Chattanooga, Tenn., Manufactures of



Also Castings and Patterns of Every Description made to order.

SPIRAL WELD STEEL PRESSURE PIPES.

HAMMER WELDED.



Flanges and Hubs and Spigots to the Regular Standards. Couplings for all Uses. Practical for Water, Gas, Steam or Air, under Light or Heavy Pressure.

STRONGER, LIGHTER, CHEAPER than any other Pressure Tubes manufactured.

THE SPIRAL WELD TUBE CO., 43 John Street, New York.

S. E. NOBLE, Pres.

JOHN E. WAKE, Sec. and Treas.

R. F. CARTER, Sept.

ANNISTON PIPE WORKS

ANNISTON, ALA.

MANUFACTURERS OF



CAST IRON GAS & WATER PIPE

Special Castings, General Castings and Machine Work.

Galvanized
Iron



FOR PROMPT
SHIPMENT.
Every Sheet
Guaranteed.

THE CINCINNATI CORRUGATING CO.
PIQUA, OHIO.

HOLTON IRON ROOFING
ROOFING, CEILING & C.
SIDING. NEW LISBON, O.
AGENTS WANTED EVERYWHERE

SYKES' IMPROVED
Best Roof in the World.
Suitable for all classes of buildings.
Easy put on.
SYKES IRON ROOFING CO., Niles, O., & Chicago, Ill.
Send for Circular and Price List, and mention this paper.

THE BERGER MANUFACTURING COMPANY, CANTON, O.



DON'T make arrangements for ROOFING 'till you have seen ours.

It Excels all other Metal Roofs.

The Kanneberg Roofing Co., Canton, O.
(The Originators of Strictly Genuine Steel Roofing.), MANUFACTURERS OF

The KANNENBERG PATENT,
Latest Improved
Folded Lock Seam,
Strictly Genuine Steel Roofing
Write for Catalogue, Price List
and Samples.

CORRUGATED IRON,
(FOUR KINDS OF CORRUGATIONS.)
Crimped Edge Iron Roofing and
Siding, Folded Iron Siding and
Ceiling, Water Proof Building
Paper, Ready Mixed Paints, Etc.

Waltham Emery Wheel Co.,
WALTHAM, MASS.
By our various processes we can guarantee satisfaction
for the greatest variety of work.
EMERY WHEEL MACHINERY,
EMERY, CORUNDUM, Etc.
These wheels can be bought of our agents or
ordered direct.

ISA DIBBLE, Pres. J. L. OTIS, Treas.
Northampton Emery Wheel Co.
MANUFACTURERS OF

Premium Solid Emery
AND
CORUNDUM WHEELS,
AND ALL KINDS OF
Emery Wheel Machinery.
LEEDS, MASS.

WESTERN BRANCH:
20 SOUTH CANAL STREET, CHICAGO, ILL.

NORTON EMERY WHEEL CO.

Complete Illustrated Catalogue
mailed free upon application

NORTON EMERY WHEEL CO.
WORCESTER, MASS.

THOS. K. CAREY & BROS.
26 Light Street, Baltimore.

Southern Agents.

Write us LATEST IMPROVED SLIP JOINT EAVE TROUGH,
LONGEST IN THE WORLD, GOES TOGETHER EASILY, NO SOLDER REQUIRED. BEST CONDUCTOR HANGER, CARRIERS, ETC. PAT'D 1889
MADE BY THE CANTON STEEL ROOFING CO., CANTON, O.

"QUICK-LAID" STEEL ROOFING.

Does away with labor required by others; Makes Roofing Profitable; has no exposed nails, rivets or cleats; is packed in patent packages, which protect it in shipping. It pleases all who use it.

MANUFACTURED BY

HEBERLING METAL ROOFING COMPANY, HAVANA, ILL.

The Long Steel & Iron Roofing Co.

(Successors to P. S. KEELY & CO.) Manufacturers of

Steel & Iron Roofing Corrugated Siding and Ceiling, Iron Ore Paint, Cement, &c.

N. E. Cor. Illinois & Merrill Sts., Indianapolis, Ind.

WRITE FOR CATALOGUE AND PRICE LIST.

METAL ROOFING, SIDING AND CEILING.

FIRE-PROOF SHUTTERS AND DOORS.

SHEET IRON AND SHEET STEEL,
Corrugated, Black, Painted & Galvanized.

Don't buy without sending for our Prices and Catalogue.

WHEELING CORRUGATING CO., Wheeling, W. Va.

CORRUGATED IRON & STEEL ROOFINGS.

Special Notice to Metal Roofers, Tinners, Hardware Jobbers and Dealers.

THE GLOBE IRON ROOFING & CORRUGATING CO., Cincinnati, Ohio, desire to form business correspondents and agents throughout the United States for the introduction and sale of their various styles of Steel and Iron Roofings, Corrugated Sidings and Ceilings. We are amongst the largest manufacturers of these goods, and our facilities are unexcelled, with central location and railroad connections unsurpassed. We are able to reach all sections with promptness and dispatch at low rates. The new tariff duties on tin and other sheet metals will tend to largely increase the demand for STEEL ROOFINGS AND CORRUGATED SIDINGS, and now is the time for dealers to fall into line and increase their business by handling a line of our specialties. We cater exclusively to the dealer and jobbing trade, to whom we make very liberal trade discounts. Write to us for prices, descriptive catalogues and sample models, and we will cheerfully give you bottom prices on the most desirable line to sell from in the United States. Address

GLOBE IRON ROOFING & CORRUGATING CO., CINCINNATI, OHIO.

IMPERIAL BRAND

PREPARED ROOFINGS

TWO and THREE PLY.

BUILDING PAPERS.

Rosin-sized and Waterproof Sheathings, Parchment Building Paper, Deadening Felts, Plain and Corrugated Carpet Linings, Imperial Asbesto-Roofing, Tarred Roofing Felts, Roofing Materials, &c.

ASBESTOS SHEATHING AND BUILDING FELTS, ASBESTOS STEAM PACKING, PIPE COVERINGS, ETC.

SEND FOR SAMPLE BOOK AND PRICES.

H. F. WATSON, Manufacturer, Erie, Pa.

407 Chamber Commerce,
CHICAGO, ILL.

SIMS' PATENT

SIMS & MILLARD, NEWARK,
SOLE MFRS. OF

The World's Favorite Adjustable Eave Trough.

PAT'D JAN. 14TH 1890

No right or left hand in ordering our Trough. It is always Right and made from the Best Galvanized Sheet Steel and Copper, in 8-foot lengths. Write for Descriptive Circulars and Price-Lists. Special Discounts to Jobbers.



THIS HANGER GUARANTEED TO GIVE
PERFECT SATISFACTION, and our track
has no equal, and our prices
are right.

CARRIER'S

Double-Braced Steel Rail

Patented June 12, 1888.

This rail being double-braced and double-riveted is the strongest rail in the market. Being braced both ways it will not sag. The joint is made so it is perfectly solid. It comes complete and ready for use, requiring only screws and screw driver for any man or boy to put it up in short order. It can be used for any grooved wheel hanger, and a heavy door will not make it spring or tremble. Guaranteed to hold a door weighing 2,000 pounds, and used in connection with our Anti-Friction Hanger will work perfectly on large or small doors.

CRONK HANGER CO., - - ELMIRA, N. Y.

Eastern Lumber Markets.

[Special Cor. MANUFACTURERS' RECORD.]

NEW YORK, December 2, 1890.

Yard holdings of lumber are rather light, considering the volume of business done in this city. The significance of this is that more business has been done during the past month than was looked for. Even wholesalers are not secretly working off large stocks. The flurry in the money market has had more or less influence in the lumber trade here and elsewhere. The market is decidedly strong, considering all the drawbacks. Random cargoes of lumber are not abundant, and random lumber is scarce, therefore selling at full prices, which is something of a surprise to a good many customers and retailers who usually expect bargains about this time. Building work is being hurried through. Eastern spruce is scarce, and dealers think they will be able to command an advance. Yellow pine flooring is selling remarkably well in Boston and Philadelphia markets as well as this. Prices are very well maintained, and the demand will probably keep up to the usual winter average. Sellers of North Carolina pine are doing very well, indeed, with orders for delivery during the winter. Stocks are not heavy, and mill capacity does not seem to be in excess of the demand. Our advices from Western points show strong prices for all Southern stocks, one reason being the increasing Southern local demand for lumber, which leaves correspondingly less for shipment North. There is no great abundance of flooring in any lumber markets. At Chicago a scarcity of first-class stock is reported, and customers are calling for it. Quarter-sawed lumber is scarce in most markets, and cherry is also commanding very good prices because of its scarcity. So much oak and cherry is going into the finer class of buildings that the increased production of mills is no more than sufficient to cover demands. Car-builders have recently made extensive purchases. Yardmen will probably extend their purchases of hardwood. Ash is rather low in price, but poplar, especially for firsts and seconds, is firm. Walnut logs are again active, but boards are dull. There is a steady movement of cypress in Western markets because of recent urgent calls from many wholesalers. Representatives of foreign lumber houses have recently placed large orders for timber at Memphis and other points in the interior. In Southern lumber circles there is a little apprehension over the possibility of an advance in freight rates. It is well worth noting the fact that white pine in all Western markets is selling at more money than on the opening of the fall trade.

The holders of white pine are in a stronger position than a year ago. Freight rates on the Lakes are higher. The deficit of stocks this year over last is estimated at Chicago to be 100,000,000 feet. There is a great deal of mill-building projected in the Northwest, and the lumber interests of that region are prospering. So far the lumber manufacturers have not suffered. The highest authorities in the trade entertain most hopeful views as to the future of the trade. Building operations will be entered upon on a large scale next year. Nothing but a prolonged financial depression will bring disaster to the lumber interests.

HUNTER'S

Lightning Sifter and Mixer.

Thousands of them in use by wholesale and manufacturing Druggists, Chemists, Perfumers. Manufacturers of Face Powders, Tooth Powders, Baking Powder, Self-Raising Flour, Paints, Putty, Soap, Plaster, Etc. Nine different sizes, 10 pounds to 10 barrels. Send for catalogue of Sifters and Mixers, Paste Mixers, Dough Mixers, Emulsion Mixers, Pill Mass Mixers and other Special Machinery.

J. H. DAY & CO., Cincinnati, O.

Branch Office, 35 Murray St., New York, N. Y.

THOMAS J. SHRYOCK & CO.
YELLOW PINE COMMISSION MERCHANTS.
Correspondence solicited.
BALTIMORE AND WASHINGTON.

E. B. HUNTING & CO.
BALTIMORE, MD.
JACKSONVILLE and FERNANDINA, FLA.
and SAVANNAH, GA.

WHOLESALE MERCHANTS
AND MANUFACTURERS OF
Yellow Pine Lumber

Buy for cash on cars at Mills and sell delivered to all points reached by rail or water. Write Baltimore Office.

FOR THE BEST AND LOWEST PRICED
GANG LATH MILL
AND BOLTER COMBINED
ADDRESS
B. S. ABBOTT
OLEAN N.Y.
Please mention this paper.

ARE YOU TROUBLED

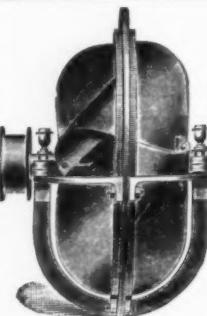
With odors in your kitchen, foul and impure air in your bath or living rooms? If so, examine the merits of

EKSTROM'S VENTILATOR

And Stove-Pipe, Collar, Thimble and Holder Combined.

CHENEY & HEWLETT,
207 BROADWAY, NEW YORK.

Send for Circular. Agents Wanted.

Pat. January 25, 1887.

BARNEY'S
Compound Ventilating Wheel

For MOVING AIR and everything that floats in air in large volume; small power required. It is NEW in principle, and is the best wheel made for circulating air in all places. Send for the new circular just out.

NATIONAL VENTILATION CO.
68 Pearl St., Boston, Mass.

OLNEY BROTHERS,
N. E. Agents for
Binghamton Cylinder & Spindle
AND DEALERS IN
Sperm, Lard, German,
Spindle and Wool
140 CONGRESS ST., BOSTON, MASS.

The "WILLIAMS," "DRAPER" & "SIPHON"
STEEL AND BRASS

OILERS
THE BEST IN THE WORLD.

Sold by Dealers Everywhere. Send for catalogue.

H. A. WILLIAMS MFG. CO.
22 Milk Street, Boston and 55 Fulton Street, New York.

JOHNSON, SHRYOCK & CO.
HARDWOOD COMMISSION MERCHANTS.
Correspondence solicited.
Office. - Shryock Building,
BALTIMORE.

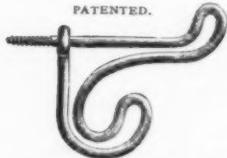
WANTED TO YOU
MORE FARMERS
TO USE THE BEST
AND MOST COMPLETE
FANNING MILL
IN THE WORLD
LOW PRICE
SHIPPED OR APPROVAL
SEND FOR CATALOGUE TO
JOHNSON FIELD

SEND FOR NEW PRICES

GEM WIRE

Coat and Hat Hooks

PATENTED.



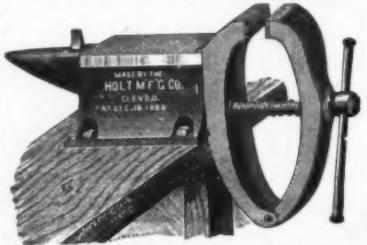
MANUFACTURED BY

VAN WAGONER & WILLIAMS CO.
82 Beckman St., New York.

Catalogue of Spring Hinges, Door Springs, Wire Coat and Hat Hooks, Blind Adjusters, &c., on application.

COMBINED ANVIL AND VISE.

HARDENED FACE, STEEL JAWS.
5 SIZES—from 10 to 75 pounds.



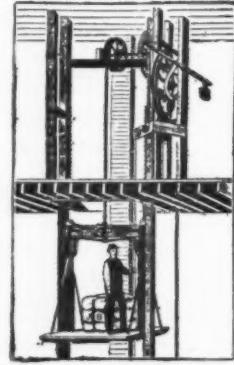
Anvils and Vises can be used independent of each other. Illustrated Catalogue to all applicants, but discount to Trade Only.

HOLT MANUFACTURING CO.
1018 & 1020 First Av., Cleveland, O.

Bates' Hand Elevators

Pat. April 18, 1871. Reissued July 26, 1876.

OVER 6,000 IN USE.



Adapted for Warehouses, Stores, Factories, Hotels, Public Institutions and every place where merchandise, &c. is transferred from one story to another.

JAMES BATES,
PATENTEE,
Nos. 1, 3 & 5 President Street, BALTIMORE.

The Jeffrey Mfg. Co.
121 W. State St., Columbus, O.

MANUFACTURERS OF

DETACHABLE CHAIN BELTING

DESIGNED FOR

Elevators, ♦
♦ Conveyers,
DRIVING BELTS

For Handling Barrels, Boxes,
Bales, Grain, Coal, Ores, &c.

Illustrated 1890 catalogue sent on
Application.

Correspondence solicited.



JOYCE, CRIDLAND & CO.
DAYTON, O.

MANUFACTURERS OF
J. O. Joyce's Patent Lever Jack,
Compound Lever
SCREW JACKS,
AND BENCH VISES.

50 varieties of Lever and Screw
Jacks for railroad use.
Please send for illustrated catalogues.

COTTON SEED OIL MILLS.

From 5 to 50 tons daily capacity.
These Mills have all the modern improvements and produce the most satisfactory oil.

Send for particulars.
ADDRESS H. W. HUBBARD, Atlanta, Ga., or Dallas, Tex.

RICHMOND IRON-PAINT CO.
WEATHERPROOF, WATERPROOF AND FIREPROOF.

Never Cracks, Blister or Peels. Especially adapted for Tin, Zinc, Copper, Iron, Shingles and Board Roofs.

PAT'D SEPT. 30, 1878.
No. 7,707.

Damp and Imperfect Walls are also Rendered Dry by the use of this Paint and Cement.

N. T. PATE & CO., 1007 E. Cary St., Richmond, Va.

THE GREAT IMPROVEMENT IN
ROOFING.

We are now ready to supply the product of entirely new machinery and processes just completed by which we not only have greatly improved the strength and durability of our well-known ASBESTOS ROOFING, but have also secured a degree of uniformity never before attained in any similar fabric. We offer this as the PERFECT form of the portable Roofing which we have manufactured with continued improvements during the past thirty years, and as the most desirable Roofing for general purposes.

The important features of our recent improvements, for which patents have been allowed in this country and in Europe, are described in our new circular, which, with samples, will be sent free by mail.

Our Asbestos Roofing is now in use upon Factories, Foundries, Cotton Gins, Railroad Bridges, Cars, Steamboats, etc., in all parts of the world.

It is supplied ready for use, in rolls of 200 square feet, and weighs with Asbestos Roof Coating, ready for shipment, about 85 pounds to 100 square feet.

It is adapted for steep or flat roofs in all climates, and can be readily applied by unskilled workmen.

There are inferior imitations of our Asbestos Roofing, purchasers are cautioned.

Samples and Descriptive Price List free by mail.

H. W. JOHNS MANUFACTURING COMPANY,

SOLE MANUFACTURERS OF

H. W. Johns' Liquid Paints,
Fire-Proof Paints, Building Felt,
Steam-Pipe and Boiler Coverings,
Asbestos Steam Packings, Gaskets, etc.
Vulcanite Moulded Rings, Washers, etc.

87 MAIDEN LANE NEW YORK.

PURE WATER FROM IRON

STEAMSHIP
WELL'S RUSTLESS IRON
PIPE.

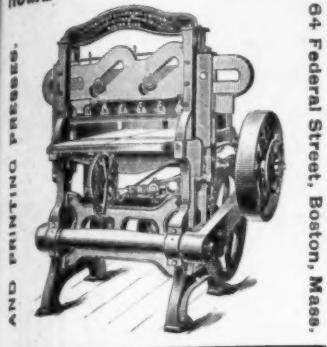
The best for
conveying water.

MADE BY THE
WELL'S RUSTLESS IRON CO.

52 JOHN STREET,
NEW YORK CITY.

THE CHILD ACME CUTTER & PRESS CO.
MANUFACTURERS OF THE

ACME SELF-CLAMPING PAPER CUTTERS



64 Federal Street, Boston, Mass.

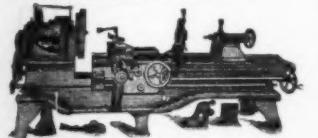
ESTATE OF
GEO. M. CRUICKSHANK,

Builder of
Stationary,
Portable
AND
YACHT
ENGINES,

Providence, R. I.
SEND FOR ESTIMATES.

Established 1867.

L. HARRINGTON, SON & CO
Works and Office,
N. 15 St. & Penna. Ave., Phila., Pa.
Manufacturers of a full line of



Iron Working Machinery,

INCLUDING
Extension and Gap Lathes, Planers with Quick
Return, Drills, &c., Hand Power Elevators with
Patent Brake, Double Chain Screw Hoists, Overhead
Tramway with Switch, Turntable and Geared
Track. Our Outing & Specialty. Send for Estimates.

REPRESENTED BY
J. O. MAYNARD, 19 Cortlandt St., New York.
C. E. KIMBALL, 93 Oliver Street, Boston, Mass.
W. BUCHNER, 102 Main St., Cincinnati, Ohio.

THE GRANT
Brick Machine
IS THE BEST FOR MAKING
STREET PAVERS.



MANUFACTURED BY
STRAUB MACHINERY CO.
General Brick and Mill Machinery
CINCINNATI, O., U. S. A.

INDIANA MACHINE WORKS
FORT WAYNE
INDIANA
BUILDERS OF
WOOD WORKING
MACHINERY.
WRITE FOR DESCRIPTIVE CIRCULARS



Send for Catalogue "A"

BAND SAW. TWIST MACHINE.

P. PRYIBIL,

518 to 524 W. 41st Street, New York City.

MANUFACTURER OF SUPERIOR

Wood-Working Machinery



SHAFTING, PULLEYS AND HANGERS.



GREAVES & KLUSMAN

180 & 182 W. Second St., Cincinnati, Ohio.

MANUFACTURERS OF

IMPROVED

Woodworking

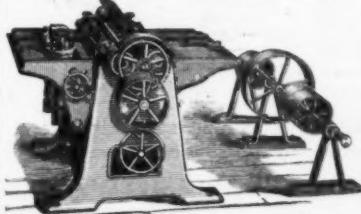
Machinery.



For Planing Mills,
Furniture and Chair
Factories, Sash,
Door and Blind,
Wagon and Car-
riage and General
Wood Workers.

Write for Prices.
It Will Pay You.

36-in. Band Saw.

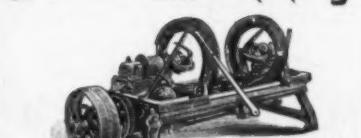


E. & B. HOLMES,

BUFFALO, NEW YORK,

MANUFACTURERS OF

Barrel Machinery.



Chambers Patent Barrel Heater.

Capacity 300 tight or 300 slack barrels per day.
The best Heater made.

E. & B. HOLMES, Sole Agents.



"IMPROVEMENT THE ORDER OF THE AGE"

For 15 years all users of typewriters have felt the necessity of their being improved. You will find in the SMITH PREMIER TYPEWRITER the latest and best. All the essential features greatly perfected and important improvements made. The improvements are mechanical and shall have been employed to produce a machine of Greater Durability, Excellence of Design and Special Features. We claim, and Inspection and trial prove it, the Most Durable in Alignment, Easiest Running and Most Silent. All type cleaned in 10 seconds without soiling hands. Send for Circular "B" and see the SMITH PREMIER TYPEWRITER CO., Syracuse, N. Y., U. S. A.



THE "BUDDY WORKMAN" AUTOMATIC TIME RECORDER keeps accurate and indisputable record of time worked by each man. Indispensable where help is employed in any number.

SEND FOR CIRCULAR TO
BUNDY MANUFACTURING CO.
RUTHERFORD, N. J.

— THE DETACHABLE —

EMPIRE SASH CORD FASTENER.

The simplest and best method of attaching Sash Cords to Window Sashes ever invented and a great saving in time and patience in putting in or taking out Window Sashes. Every window requires them that is hung with weight.



The sharp rib extending over the top of the fastener, through the centre, is, by the weight of the sash, caused to dig into the sash cord, thus preventing its slipping. The most useful invention for Window Sash ever put on the market. Every window requires it.

Reason why you should use them: It costs less than one and one-half cents per set; it requires no nails or screws. Can be used on any sash cord, and the sharp rib prevents the knot from fraying off and getting between the sash and frame; does not split the sash like nails or screws; prevents the cord from running back into the weight pocket. Manufactured by the

EMPIRE PORTABLE FORGE CO., LANSBURGH, N. Y., U. S. A.

Labor-Saving Machinery.

THE BAXTER ELECTRIC MOTOR

Is the BEST MOTOR in the Market for running Printing Presses, Sewing Machines and the Machinery used by Shoe Manufacturers, Clothiers and by all others requiring Motive Force from one to ten horse-power in their work.

ALL MECHANICAL CONTRIVANCES,

ELECTRICAL OR OTHERWISE,

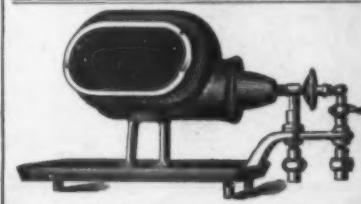
for Saving Labor and Fuel, manufactured to order, and

REPAIRS MADE ON ALL KINDS OF DYNAMOS,

Street Car and Stationary Motors

BY

Baxter Electric Motor Co.
Chase, Biddle, Chester and Collington Ave.,
BALTIMORE, MD.



STICKNEY OIL BURNER

For Heating Soldering Coppers.

Saves insurance premiums, decreases fire risks.

Economical and reliable. Always ready for use.

Write for circular D and special information.

STICKNEY OIL BURNER CO., Portland, Me.

OW.-OW. OW!

What's the Matter?

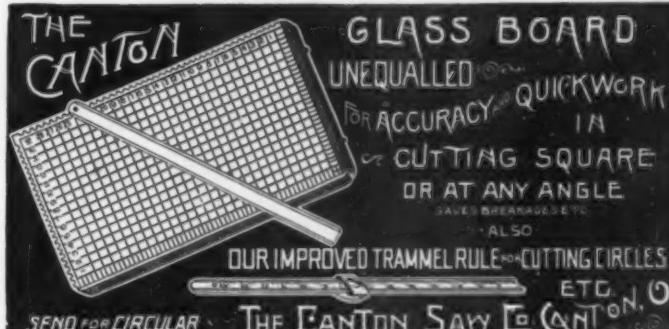
I Hurt my Hand with a Nail Puller.

Why didn't you buy

SCRANTON'S
IMPROVED
Nail Puller

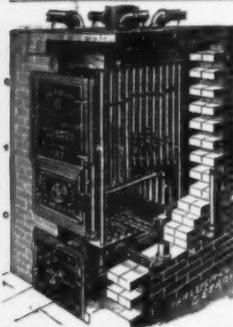
Which Can't Hurt the Hand?

MADE BY
The Belden Mch. Co.
NEW HAVEN,
CONN.
S. A. HAINES CO. 90 Chambers St.
NEW YORK,
BRILLING AGENTS.



These Cuts represent the Latest Improved
Gang Lath Mill & Bolter
MANUFACTURED BY
ROBT. EASTON, 157 Market Street,
WILLIAMSPORT, PA.
WRITE FOR PRICE LIST AND DISCOUNT.

BOOKS. NEWSPAPERS. CIRCULARS. FINE CUT WORK
Record Printing House, Cor. Exchange Pl.
PAMPHLETS. CATALOGUES. SPECIAL TV.
XUM



BOLTON HOT WATER HEATER.

DETROIT HEATING & LIGHTING CO.

88 Lake Street, CHICAGO, 359 Wight Street, DETROIT,
508 North Fourth Street, ST. LOUIS, 42 Pearl Street, BOSTON.
DALLAS, TEX.

Double, Single, Angle-Bar, Gang, Horizontal,
Twin, Boiler, Spacing, Gate, Multiple, BELT and
STEAM-DRIVEN

Punch & Shears.

Over 300 Sizes.

ALSO
Power-Cushioned

HAMMER.

Heavy Double Machine.

Send for New Catalogue.

Heavy Single Machine

THE LONG & ALLSTATTER CO. HAMILTON, OHIO.



Laundry Machinery.

LARGEST STOCK.

LATEST IMPROVEMENTS.

FULLEST LINE.

Washing Machines,

Ironing Machines,

Centrifugal Machines,

Mangles, Wringers, &c.

BOILERS AND ENGINES.

OUTFITS FOR

Hotels and Public Institutions.

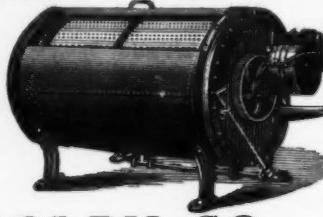
SPECIALLY.

THE A. M. DOLPH CO.

222 WASHINGTON STREET,
CHICAGO, ILL.

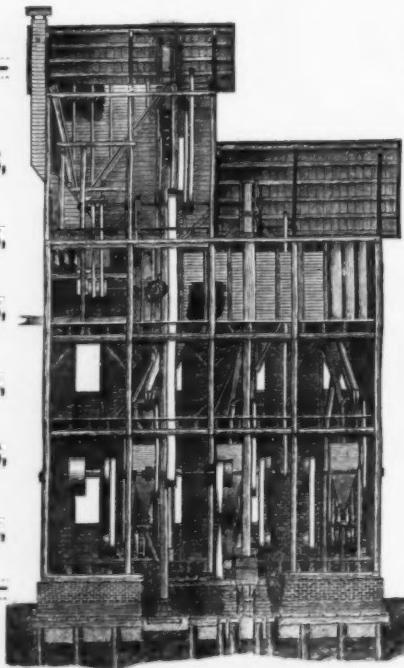
40 CORTLANDT STREET,
NEW YORK.

COR. 9TH ST. & FREEMAN AVE.
CINCINNATI, O.



Acid Phosphate Works,

FRISBEE-LUCOP
PULVERIZERS,
CRUSHERS,
MIXERS,
SACKING and
MIXING MACHINES,
AUTOMATIC
DUMP CARS,
ELEVATORS,
CONVEYORS,
ACID EGGS,
AIR COMPRESSORS,



We are prepared to furnish estimates for Machinery for Complete Works, including Drawings for Mill Building, Storehouse, Engine and Boiler House, &c.

• ALSO PLANS FOR ERECTION OF MACHINERY. •

We refer to the following Fertilizer Works using our machinery, viz.: Imperial Fertilizer Co., Charleston, S. C.; Wando Phos Co., Charleston, S. C.; Atlantic Phos Co., Charleston, S. C.; Edisto Phos Co., Charleston, S. C.; Ashepoo Phos Co., Charleston, S. C.; St. Andrews Phos Co., Charleston, S. C.; Mead & Co., Charleston, S. C.; Berkeley Phos Co., Charleston, S. C.; Stono Phos Co., Charleston, S. C.; Rome Chemical Co., Rome, Ga.; Montgomery Fert. Co., Montgomery, Ala.; South-Chemical Co., Meridian, Miss.; Nat. Acid Co., New Orleans, La.; Troy Fert. Co., Troy, Ala.; Davie & Whittle, Petersburg, Va.; G. W. Scott Mfg. Co., Atlanta, Ga.; Hammond, Hull & Co., Savannah, Ga., and Port Royal, S. C.; Baldwin Fert. Co., Port Royal, S. C.

Valk & Murdoch Iron Works, Charleston, S. C.

BEST RECORD FOR THE LONGEST TIME IN THE COLDEST CLIMATES.

Can Not Leak, having no bolted, packed or flanged joints.
Can Not Crack, being made of Wrought Iron.
Best Fire Surface, all directly exposed to the fire. Best proportion to grate surface.
Drop Tubes. No other known device gives such extensive heating surface, combined into vertical circulation.

BRICK CASING PREVENTS LOSS OF HEAT IN CELLAR.

COMBINATION GAS MACHINE



Best Independent Lighting Apparatus for Country and Suburban Residences, Churches, Schools, Stores, Hotels, etc. Over 20 years in use with never an accident. Average cost of gas ½ cent per hour per burner.

NIAGARA STAMPING & TOOL CO.

MANUFACTURERS OF

TINNERS' MACHINES & TOOLS

For Working Sheet Metal, &c.

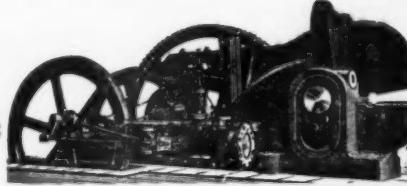
Squaring and Circle Shears,
Fruit Can Dies and Tools,
Canners' Outfits.

Superior, Cor. of Randall Street,
BUFFALO, N. Y.

• Write for our Catalogue and Price List and mention this paper.

The LLOYD BOOTH CO., Youngstown, Ohio.

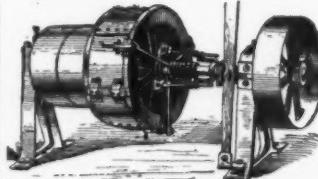
GUIDE,
BAR,
MUCK,
SHEET
AND PLATE
MILLS.



SQUEEZERS,
SHEARS,
ORE MILLS,
ROLL LATHE,
SAND AND
CHILL ROLLS

Manufacturers of IRON AND STEEL WORKS MACHINERY.

PERFECTLY UNIFORM SPEED



For Dynamos and all classes of Machinery, who run by Water-Wheels, Slow-Speed Engines, or any General Source of Power that is doing other work.

OUR INTERMEDIATE SPEED REGULATOR

Maintains a Perfectly Uniform Speed, no matter how variable the driving power may be. The speed can be changed at any moment by moving a shipper over a range of 30 per cent. Write for descriptive pamphlet.

T. M. FOOTE REGULATOR CO.

273 Franklin Street,

BOSTON, MASS.

ESTABLISHED 1832 ON PRESENT PREMISES.

The Best

—15—

ALWAYS

—THE—

Cheapest.



Therefore

BUY OUR

COLOPHINE

—ON—

Perfect

The above are our specialties in MACHINERY OILS, and are the best oils in the price manufactured. We can give you anything in the OIL LINE, any grade, at the very lowest prices. Correspondence solicited.

WM. G. ROBINSON & SON,
MANUFACTURERS AND DEALERS IN OILS.

217 South Street, Baltimore, Md.



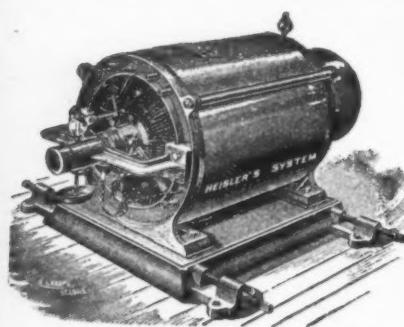
Alphabetical Index of Advertisers.

[FOR "CLASSIFIED INDEX," SEE PAGE 2.]

A	Cronk Hanger Co.	73	Jenks, James.	46	R	Racine Hardware Co.	37			
Abbott, B. S.	74	Curtis Regulator Co.	35	Johns, H. W. Mfg. Co.	74	Webster Manufacturing Co.	67			
Austin, Austin.	33	Cyclops Steel Works.	72	Johnson, R. M.	68	Webster, Warren & Co.	66			
Baldwin, T. C. & Son.	52	D	Johnson & Field.	74	Wells Drill Co.	64				
Baldwin, A. G., Sporting Goods Co.	50	Dallas, Texas.	18	Johnson, Shryock & Co.	74	Wells Machine Works.	59			
Edward.	70	Dashill, Jr., E. J.	45	Jones of Binghamton.	68	Wells Rustless Iron Co.	74			
Eastern Flyer & Mach. Co.	51	Davis, F. H., & Co.	50	Jory & Co.	68	Western Block Co.	77			
Erie, The J. B., Co.	51	Dayton Globe Iron Works Co.	51	Joyce, Cridland & Co.	74	Western File Co.	31			
Hannah, J. W.	39	Day, J. H. & Co.	74	K	Raymond Bros. Imp. Pulv. Co.	65				
American Gas Saving Co.	50	Dean Bros. Steam Pump Works.	48	Kaueberg Roofing Co.	73	Raymond, C. W., & Co.	63			
American Machine Co.	50	Deane Steam Pump Co.	4	Keegan & Halpin.	49	Rawson & Morrison.	7			
American Pipe Iron Storage Ware Co.	70	Defiance Machine Works.	30	Keeler, E. Co.	60	Record Printing House.	75			
American Pipe Mfg. Co.	45	Deming Co.	48	Kendall, Edward & Sons.	34	Rentier & Mallory.	39			
American Screw Co.	71	Dempwolf, C. H., & Co.	68	Kennedy, Julian.	36	Reynolds Bros.	39			
American Supply Co.	50	Denison, Texas.	20	Kilbourne & Jacobs Mfg. Co.	80	Reynolds, W. H.	46			
Anderson Foundry & Machine Works.	50	Derby & Klimm Desk Co.	39	Kimball, Tenn.	15	Rice & Whitacre Mfg. Co.	33			
Andrews, A. H.	72	Detroit Foundry Equipment Co.	60	Knoxville Car Wheel Co.	56	Richmond City Mill Works.	71			
Anderson Pipe Works.	72	Detroit Heating & Lighting Co.	60	L	Richmond Locomotive & Machine Works.	47				
Arctic Ice Machine Mfg. Co.	34	Diamond Prospecting Co.	64	Ladd, Alfred W.	46	Richmond Machine Works.	60			
Armstrong Bros.	63	Dixon, Jos., Crucible Co.	70	Laidlow & Dunn Co.	48	Riehle Bros.	61			
Arnold, D. J. C.	63	Dolph, A. M., Co.	76	Lancaster Turbine Wheel Co.	52	Ring Refrig. & Ice Machine Co.	61			
Asland, Ky.	60	Dopp, H. Wm., & Son.	4	Lansing Wheelbarrow Co.	80	Roane Iron Co.	18			
Atlanta Machine Works.	61	Draper, Geo., & Sons.	4	Laredo, Texas.	17	Robinson, Wm. C., & Son.	76			
Auto & Vibro.	62	Drew, Baldwin & Co.	45	Lathe & Morse Tool Co.	72	Robinson & Orr.	3			
Austin, F. C., Mfg. Co.	36	Dufur & Co.	68	Lawrenceburg, Tenn.	54	Rochester Machine Tool works.	23			
B	Babcock & Wilcox Co.	34	Dunning, W. D.	45	Leffel, Jas., & Co.	50	Rogers, C. B., & Co.	31		
Baldwin Locomotive Works.	66	Du Quoin Iron Works.	28	Linco Iron Works.	25	Rogers, D. D.	45			
Baltimore Star & Light Co.	62	Dutton, C. H., & Co.	33	Link Belt Engineering Co.	25	Rome Foundry & Machine Wks.	52			
Bangor, Wm., & Son.	34	D. W. O.	45	Litchfield, G. V.	39	Ross, Josiah.	31			
Banbury, N.	68	E	Eagle Boiler Works.	34	Litofitz Mfg. Co.	25	Rowley & Hermance.	29		
Barney, Geo. A.	68	Eastman Co.	25	Lloyd Booth Co.	70	Rumsey & Co., Limited.	80			
Bates, W. F., & John, Co.	48	Easton, Robt.	75	Lockwood, Greene & Co.	45	Russell & Co.	32			
Bauer Pumping Engine Co.	48	Eclipse Pump Mfg. Co.	29	Lodge & Davis Mach. Tool Co.	46	Russeel Wheel & Foundry Co.	29			
Berry, W. B., Saw and Supply Co.	30	Eddy, Chas. G.	60	Long & Allstatter Co.	76	Ryan Co., Jno.	67			
Berry Elec. Motor Co.	74	Edmonds & Robinson.	60	Long Steel & Iron R. Co.	73	Ryan-McDonald Mfg. Co.	67			
Bing Line.	62	Edwards Mfg. Co., M. L.	35	Lowe & Tucker.	73	Ryder & Dearth.	62			
Bonner, H. L.	62	Ehret-Warren Mfg. Co.	29	Lowell Steam Boiler Works.	46	S	Salem Fdry. & Mch. Shop.	59		
Borden Machine Co.	75	Empire Paint & Roofing Co.	29	Ludlow Saylor Wire Co.	35	Salem Wire Nail Co.	31			
Bolin Gas Motor Co.	68	Empire Portable Forge Co.	75	Lunkenheimer Brass Mfg. Co.	35	Saventle, W. R.	65			
Bolton Iron Works.	68	Employers' Liability Assurance Corporation, (Limited).	75	Luray, Va.	19	Schaum & Uhlinger.	58			
Bomar Mfg. Co.	68	F	Farrell & Rempe.	61	Schneider & Trenkamp Co.	50	Schneider & Uhlinger.	58		
Borden Drill Co.	68	Fay, J. A., & Co.	29	Schuyler Elec. Co.	78	Sebastian-May Co.	46			
Boutin, W. H.	45	Fava, Naeff & Co.	45	Sebastyan-May Co.	46	Seyfert's Sons, L. F.	25			
Bowditch Chem. Co.	48	Field, Jno. C.	45	Shearn, Henry, Cutlery Co.	80	Sharon Boiler Works.	51			
Bowditch & Clarke.	48	Fitzsimons & Co.	65	Sheffield, Ala.	16	Sheffield, Ala.	16			
Brown & Borscht Press Co., The.	45	Flood, Geo.	63	Shenandoah Junction, W. Va.	28	Shenandoah, Va.	12			
Brown Eng. Co.	30	Fletcher & Thomas.	63	Shenandoah Valley Railroad.	62	Shenandoah Valley Railroad.	62			
Brown, A. F. & Co.	61	Foot Manufacturing Co.	68	Shepard, H. L.	68	Shepherd, H. L.	68			
Brown, Cleveland.	70	Foot, T. M., Regulator Co.	76	Sherwood Mfg. Co.	33	Shepherd & H. L.	68			
Brodley Fertilizer Co.	65	Forest City Brass Works.	35	Shields & Brown Co.	33	Shepherd & H. L.	68			
Brodley & Co.	67	Forsyth, S. C., Machine Co.	35	Shimer, Samuel J.	30	Shepherd & H. L.	68			
Broadstreet Co.	62	Frank & Co.	28	Shryock, Thos. J., & Co.	74	Shimmy & Hillyer.	47			
Brown, Alex., & Sons.	38	Frey-Scheckler Co.	60	Mengel, John G. & Co.	59	Simpkin & Millard.	47			
Brown Electric Co.	79	Freese, E. M., & Co.	63	Merritt, J. E., Machinery Co.	62	Skinner Engine Co.	73			
Bryant Safe Eng. Works.	60	Frick Co.	32	Meyer, Fred, J., Mfg. Co.	65	Smith, H. B., Machine Co.	38			
Bryant Stm. Shov. & Drag. Co.	36	Frisbie Lucop Mill Co.	64	Middleton, Oliver & Co.	39	Smith, Jas., & Co.	3			
Brown & Son.	68	Fritz, Geo. J.	71	Middendorf, Oliver & Co.	39	Smith Premier Typewriter Co.	75			
Brown Forge Co.	80	Frontier Mfg. Co.	60	Miles, Geo.	34	Smith, S. Morgan.	53			
Brownie Steam Pump Co.	48	Fulton Steam Boiler Works.	34	Milner & Bierce.	36	Smith & Vaile Co.	48			
Burdick, M. C., Mfg. Co.	64	Fulton, M. C., Mfg. Co.	64	Miner & Peck Mfg. Co.	67	Southern Engraving Co.	62			
Bundy Mfg. Co.	75	G	Gaines, Wm., Pendleton.	62	So. Electrical Supply Co.	62	Southern Equipment Co.	45		
Burdette, D. & Co.	62	Gandy Belting Co.	70	Southern Investment Co.	39	Southern Investment Co.	39			
Burdette, Tamm.	21	Garlock Packing Co.	70	Southern Railways Co.	39	Southern Railways Co.	39			
Burdette, Tamm.	21	Gates Iron Works.	64	Spiral Weld Tube Co.	72	Southern Railways Co.	39			
Burke, G.	68	Gerlach, Peter & Co.	77	Springfield Emery Wheel Mfg. Co.	52	Southern Railways Co.	39			
Burke Manufacturing Co.	68	Giant Key Seater Co.	52	Standard Dry Kiln Co.	52	Southern Railways Co.	39			
Burke Engine Works.	61	Glen Cove Machine Co., (Lim.).	50	Standard Steel Works.	3	Southern Railways Co.	39			
Burke Grove Industrial Co.	22	Globe Iron Roofing & Cor. Co.	73	Standard Tool Co.	80	Southern Railways Co.	39			
Burnett, H. D. & R.	62	Globe Mach. Works.	58	Staunton, Va.	55	Southern Railways Co.	39			
Burnham, Mfg. Co.	68	Godfrey & Co.	46	Steam Stone Cutter Co.	68	Southern Railways Co.	39			
Burnett, H. D. & Co.	75	Goodell & Waters.	27	Stephens Rail Supply Co.	46	Southern Railways Co.	39			
Burnett, H. D. & Co.	75	Gordon, Strobel & Laureau (Lim.).	52	Stein & Schwarz.	58	Southern Railways Co.	39			
Burnett, H. D. & Co.	75	Gordon Steam Pump Co.	46	Stevens Bros. & Co.	39	Southern Railways Co.	39			
Burnett, Tamm.	21	Goschen, Va.	26	Stevens, J., Arms & Tool Co.	47	Southern Railways Co.	39			
Burnett, Tamm.	21	Gould, Mfg. Co.	36	Stickney Oil Burner Co.	75	Southern Railways Co.	39			
Burnett, Tamm.	21	Graham, Bailey & Co.	46	Stillwell & Bierce Mfg. Co.	51	Southern Railways Co.	39			
Burnett, Tamm.	21	Graham, J. S., & Co.	30	Stoddard, Loring & Co.	51	Southern Railways Co.	39			
Burnett, Tamm.	21	Gray & Fitch.	45	Stow Flexible Shaft Co.	68	Southern Railways Co.	39			
Burnett, Tamm.	21	Greaves & Klusman.	75	Straub Mfg. Co.	75	Southern Railways Co.	39			
Burnett, Tamm.	21	Grottoes Co., Va.	53	Stuebner & Woods.	68	Southern Railways Co.	39			
Burnett, Tamm.	21	H	Hagerstown, Md.	56	Sturtevant, B. F.	71	Southern Railways Co.	39		
Burnett, Tamm.	21	Haines, Jones & Cadbury Co.	56	Sulzer-Vogt Machine Co.	61	Southern Railways Co.	39			
Burnett, Tamm.	21	Harriman Steam Laundry Co.	56	Sword, P. L., & Son.	63	Southern Railways Co.	39			
Burnett, Tamm.	21	Harrington, E. Son & Co.	45	Sykes Iron Roofing Co.	73	Southern Railways Co.	39			
Burnett, Tamm.	21	Harrington, King Perf. Co.	64	T	Talbott & Sons.	33	Southern Railways Co.	39		
Burnett, Tamm.	21	Harris, Hubbard & Mfg. Co.	59	Taper-Sleeve Pulley Works.	68	Taylor Mfg. Co.	32	Southern Railways Co.	39	
Burnett, Tamm.	21	Harris, N. W., & Co.	38	Terry Mfg. Co.	38	Taylor Mfg. Co.	32	Southern Railways Co.	39	
Burnett, Tamm.	21	Harris, Wm. A., Steam Eng. Co.	32	Thompson-Houston Electric Co.	78	Taylor Mfg. Co.	32	Southern Railways Co.	39	
Burnett, Tamm.	21	Harrison Safety Boiler Works.	38	Tiff, Geo. W., Sons & Co.	32	Todd Pulley & Shafting Works.	51	Southern Railways Co.	39	
Burnett, Tamm.	21	Hartford Steam Boiler Inspection & Insurance Co.	63	Tod, Wm., & Co.	32	Totten & Hogg I. & S. F'dry Co.	80	Southern Railways Co.	39	
Burnett, Tamm.	21	Hartig, Mfg. Co.	59	Tredegar, Ala.	12	Tredegar, Ala.	12	Southern Railways Co.	39	
Burnett, Tamm.	21	Hayden, Joel & Co.	39	Trevor Mfg. Co.	31	Troy Laundry Mch. Co.	68	Southern Railways Co.	39	
Burnett, Tamm.	21	Heberling Metal Roofing Co.	73	Tucker Mfg. Co.	34	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Hercules Iron Works.	45	U	Union Brass Foundry.	33	Tucker Mfg. Co.	34	Southern Railways Co.	39
Burnett, Tamm.	21	Heine Safety Boiler Co.	35	Union Foundry & Machine Wks.	70	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Heisler Electric Light Co.	78	V	Vale & Murdoch Iron Works.	76	Tucker Mfg. Co.	34	Southern Railways Co.	39
Burnett, Tamm.	21	Hewes & Phillips Iron Works.	32	Valley Iron Works.	32	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Hill, Wm. E., & Co.	30	Valley Pump Co.	49	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Holmes, E. & B.	75	Valley Railway.	49	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Holt Mfg. Co.	74	Van Duzen Emery Wheel Co.	48	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Howell Wheel Co.	67	Van Duzen Gas & Gasoline Eng. Co.	48	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Hubbard, H. W.	74	Pate, N. T., & Co.	74	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Hughes Steam Pump Co.	52	Patterson, B. W. & Sons.	74	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Hunting, E. B., & Co.	74	Penfield, J. W., & Son.	63	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Hunt, Rodney, Machine Co.	51	Penna. Globe Gas Lt. Co.	59	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Huvett & Smith.	31	Pennsylvania Steel Co.	59	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Hyman, V. L.	39	Phosphor-Bronze Sm't. Co. (Lim.).	67	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	I	Ide, A. L., & Son.	33	Pickards, Mather & Co.	70	Tucker Mfg. Co.	34	Southern Railways Co.	39
Burnett, Tamm.	21	Indiana Machine Works.	75	Piedmont Air Line.	62	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, Tamm.	21	Industrial Light Co.	59	Pierce, Butler & Pierce Mfg. Co.	59	Tucker Mfg. Co.	34	Southern Railways Co.	39	
Burnett, T										

THE HEISLER PATENT**Long Distance Incandescent Electric Light System.**

UNEQUALLED FOR DISTRIBUTION OVER WIDE AREAS.



SPECIALLY ADAPTED FOR STREET, COMMERCIAL & DOMESTIC ILLUMINATION FROM CENTRAL STATIONS.

Plant may be located where power can be secured cheapest, even if miles distant from the lighting. Safety, Reliability, and Financial Success fully demonstrated. Plan of Wiring the Simplest, Cheapest and most Efficient. Strictly Series. Noted for the Brilliance and Beauty of the Light. Lamps, 10 to 100 Candle Power; Long Life without Blackening. Dynamo Self-contained and perfectly Automatic.

Heisler Electric Light Company,

809 to 817 South Seventh Street, ST. LOUIS, MO.

"Awarded the Highest Distinction—a Gold Medal—by the International Jury at the Universal Exposition, Paris, 1889."

Send for Circulars.

Correspondence Solicited.

Arc and Incandescent
Electric Lights.

Water Works,
Motors.

Illuminating and Fuel
Gases.

L. N. COX,

16 Fifth Street, S. E.

WASHINGTON, D. C.

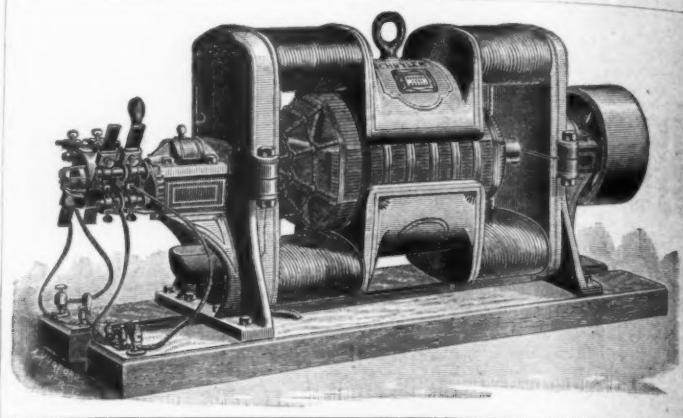
Correspondence Solicited. Plans, Specifications, Estimates, &c., cheerfully furnished.

Subscribe to the MANUFACTURERS' RECORD
Price \$4.00 a year or 6 months for \$2.00

BUY THE

Schuyler Apparatus

IF YOU WANT

The Best Arc Lighting System.

Office and Factory:

MIDDLETOWN, CONN.

ACKNOWLEDGED SUPERIOR TO ALL OTHERS.**THE THOMSON-HOUSTON SYSTEM**

OF

Electric Lighting**DYNAMOS**

OF THE HIGHEST ECONOMY AND DURABILITY.

TRANSFORMERS AND LAMPS

OF UNEQUALLED EFFICIENCY.

Alternating Currents.**Minor Appliances of the Same Quality as the Larger Apparatus.**

Intending Investors Should Investigate this System. A Slight EXAMINATION will SHOW that all CLAIMS can easily be SUBSTANTIATED.
Send for Illustrated Catalogue on the Alternating Current System.

THOMSON-HOUSTON ELECTRIC CO.

620 Atlantic Avenue, BOSTON, MASS.

215 W. Fourth St., CINCINNATI, OHIO.

148 Michigan Avenue, CHICAGO, ILL.

403-405 Sibley St., ST. PAUL, MINN.

WALL AND LOYD STREETS, ATLANTA, GA.

THE

BRUSH ELECTRIC COMPANY,

* CLEVELAND, OHIO. *

The Best and Most Complete Systems of

ARC ELECTRIC LIGHTING FOR CENTRAL STATIONS, ETC.

INCANDESCENCE ELECTRIC LIGHTING,

Alternating Current or Long Distance Lighting,

ELectrical Power Transmission and Distribution.

FUNDAMENTAL PATENTS ALREADY SUSTAINED BY U. S. COURTS.

The Short Electric Railway Company,

* CONTRACTORS *

FOR ELECTRIC RAILWAYS ON THE SHORT SYSTEMS

AND GENERAL RAILWAY AGENTS FOR

THE BRUSH ELECTRIC COMPANY.

OFFICE AND WORKS: - - - - CLEVELAND, OHIO.

Nicholson File Company,

PROVIDENCE, R. I.

IN
QUANTITY
UNEQUALLED.

IN
VARIETY
UN-
PARALLELED.



Manufacturers of EVERY KIND of

FILES AND RASPS.

S EYMOUR'S SHEARS AND SCISSORS

Finest in Finish and Quality.



Price-Lists on Application.

275 Kinds & Sizes

"I have handled your shears very successfully for the past twenty-four years." — JOHN MAYOR, Macon, Mo.

CARLIN & FULTON, Baltimore, Md., carry a full line of Seymour's Shears in stock.

HENRY SEYMOUR CUTLERY CO., 84 & 86 Chambers St., N. Y. City.

John L. Whiting,
Wm. S. Whiting.
Lew C. Hill.

JOHN L. WHITING & SON,

MANUFACTURERS OF

BRUSHES

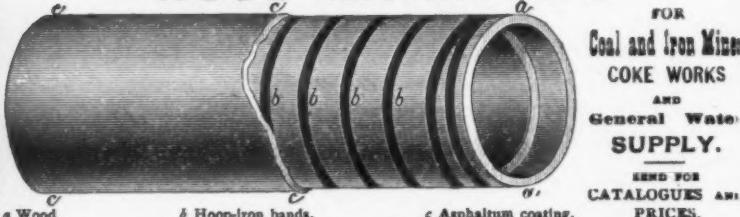
Cor. High & Purchase Sts.,

BOSTON, U. S. A.

A. WYCKOFF & SON,

MANUFACTURERS OF

WOOD WATER PIPE



MASON REDUCING VALVES.

OUR STEAM-REGULATING DEVICES are the Standard used by all the Sugar Refineries, Car-Heating Companies, Factories and Electric Stations. If you would economize fuel, write the

MASON REGULATOR CO., BOSTON, MASS.

THE STANDARD TOOL COMPANY, Cleveland, Ohio.



Manufacturers of Bit Stock Drills, Straight Shank Drills, Taper Shank Drills, Taper Beamers, Milling Cutters, Chucks, Ratchet Drills, Screw-Driver Bits, Twist Drill Grinding Machines.

CENTRIFUGAL
ROTARY AND PISTON
PUMPS.

Also HOUSE PUMPS.

PUMPS

FIRE ENGINES,
HOOK AND LADDER
TRUCKS
And HOSE CARTS.

Send for Catalogue.

RUMSEY & CO., Limited,
Seneca Falls, N. Y., U. S. A.

Nicholson & Waterman Mfg. Co.

PROVIDENCE, R. I.

LATHES.

CUTTING-OFF

MACHINES,

TRAVERSE

DRILLS,

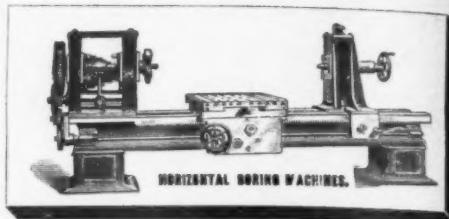
TRAVERSE

BORING

MACHINES,

SPECIALS,

&c., &c.



MINING AND FOUNDRY BARROWS

A SPECIALTY.



Trucks and Barrows.

Lansing Wheelbarrow Co.

Lansing, Mich.

ROLLS. EST'D. AND 1863.



THE TOTTEN & HOGG IRON & STEEL + FOUNDRY CO.

OFFICE & WORKS
24TH ST & A.V.R.R.

PITTSBURGH, PA.

ROCK CRUSHERS.

CHILLED SAND ROLLS.

SHEARS SQUEEZERS AND ROLLING MILL MACHINERY.

New Doty Manufacturing Co.

Manufacturers of Hand and Belt Power



Punching & Shearing MACHINERY.

Boiler Makers' Rolls
JANESVILLE, WI.

DETROIT

SURE GRIP Steel Tackle Block.

HALF THE COST of hoisting saved to Machinists, Builders, Contractors and OTHERS. Admitted to be the greatest improvement EVER made in Tackle Blocks. Write for Catalogue.

FULTON IRON & ENGINE WORKS,

Established 1852. 19 Brush St., Detroit, Mich.



The ORIGINAL UNVULCANIZED PACKING
CALLED THE STANDARD.
As it is the Packing by which all others are compared.

Accept no packing as JENKINS' PACKING unless stamped with our "Trade Mark."

JENKINS' BROS.

71 John St., New York. 21 N. Fifth St. Philadelphia.

105 Milk St., Boston. 54 Dearborn St., Chicago.

Use Our No. 6 1-2 AXLE

For Trucks, Express and Delivery Wagons.
CLEVELAND AXLE MFG. CO., Cleveland, Ohio.



BUFFALO BLOWERS

BUFFALO POPULAR DRIVE-HOLLOW CYLINDER
BUFFALO, N.Y.
NOISELESS

CUPOLAS, FORGES, FURNACES &c.
EXHAUSTERS, STEAM FANS.
HEATERS & VENTILATING WHEELS.

BUFFALO FORGE CO.
BUFFALO, N.Y.

Before Purchasing Elsewhere Write us for Catalogue and Prices.

THE KILBOURNE & JACOBS MFG. CO.

COLUMBUS, OHIO, U. S. A.

THE COLUMBUS STEEL TUBULAR WHEELBARROWS.

